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Modern Oil-Well Cementing Operations

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Abstract

A review of the basic reasons and procedures for cementing oil wells is presented, as well as the equipment and tools necessary to perform different types of cementing jobs.

The various types of cement and their application are described, as are the various additives and chemicals commonly added to oil-well cements to impart special properties.

The role of other services in securing better cementing jobs is explained, covering electric logs, radioactive logs, caliper surveys, temperature surveys, and gun perforating.

The paper closes with a list of steps that should be considered prior to and during a cementing job in order to obtain the best possible results.

The cementing of oil wells has become a highly technical operation involving the use of special equipment and highly trained personnel. The equipment and special materials required for modern oil well cementing are the results of many years experience and much engineering study.[1]

Oil-well casings are cemented for 3 primary purposes, viz:

1. To segregate fluid-bearing zones.

2. To case off troublesome formations to allow deeper drilling.

3. To protect the casing.

Most oil wells are drilled through permeable formations carrying either fresh water, salt water, or gas, prior to reaching the oil-producing zones. It is necessary to place cement between the casing and the wall of the well bore in order to prevent the migration of fluids from these zones into the producing zone or to keep fresh-water strata from becoming contaminated. Surface and shallow waters must be protected from contamination if they are to be used for irrigation or municipal water sources. Coal and other mineral strata must be protected in many areas. It is also necessary to seal the producing formation so it will not lose oil into other permeable zones having less pressure. Formation production tests are impossible in many instances until casing has been cemented into or through the zone to be tested.

Troublesome formations are often encountered which make deeper drilling extremely difficult or impossible. In such instances these zones must be cased off so that deeper drilling may proceed. This is often the case when lost circulation occurs, i.e., when the drilling mud being circulated through the drill pipe is being lost into the formation instead of returning to the surface. Other formations that tend to slough off into the hole, such as "heaving shales," can prevent further drilling unless cased off. Salt or anhydrite formations may contaminate the drilling fluid or wash out to such an extent that they must be cased.

Some formations contain corrosive waters that tend to destroy the casing unless sealed off. In such areas it is necessary to place cement between the casing and these formations to protect it from corroding.

Cementing Procedures

Casing Cementing

In general, casing is cemented in the following manner:

The casing is run to the desired depth with proper floating equipment, centralizers, wall cleaners, and other devices, if used, properly assembled at the surface as the casing is being run. The floating equipment usually consists of a guide shoe and float collar. The guide shoe is a device with a rounded nose that fastens on the bottom of the casing to act as a guide to prevent the casing from hanging on the side of the well as it is being run. The float collar is a device that is placed in the casing string, usually 1 to 3 joints (30 to 90 ft.) above the bottom. These have various designs, but are essentially back-pressure valves that will allow fluid to be

[1]References are at the end of the paper.

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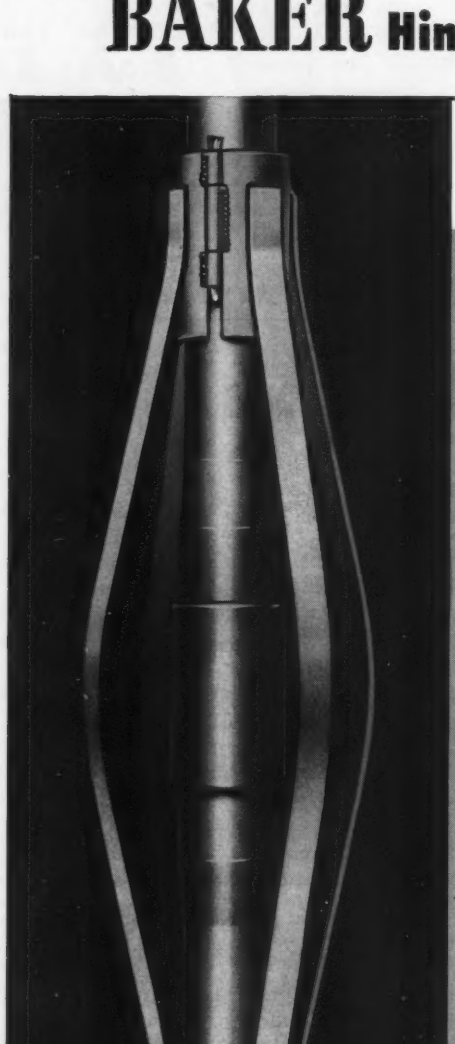
BAKER Hinge-Lok Tubing Centralizers



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- ☐ *For running on tubing above a Baker Retainer Production Packer to ensure proper centering, easier reentry of the tubing in the bore of the Packer, and elimination of any tendency of the tubing to bind in the Packer bore.*
- ☐ *For centering the tubing above a Baker Retainer Production Packer set between two zones to ensure that the tubing will not become sanded up in an extreme off-center position and thus to provide assurance that washing over can be accomplished without complications.*
- ☐ *For centering the tubing opposite the upper perforations of dual-zone completions to permit uniform entry of the fluid into the casing and to provide a protective cushion against the sandblasting action of the entering fluid.*
- ☐ *For cementing strings of tubing in gas-storage projects.*
- ☐ *For solving pumping problems in deep wells and in unusual pumping wells.*
- ☐ *For minimizing wear on pumping strings caused by the constant rubbing of the tubing against the bore of the casing as the tubing "breathes."*

When choosing tubing centralizers, remember that Baker Hinge-Lok Tubing Centralizers are:

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Easily installed on either plain-end or external-upset tubing as it is being run.

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pumped downward through the casing but will not allow fluid movement in the reverse direction. This device prevents the drilling fluid from entering the casing as it is being run, thus permitting a floating action which takes much of the load off the derrick on a long string of casing. It also prevents the flow-back of cement into the casing after it has been placed in the annulus, and acts as a stop for the plugs that are used to separate cement and other fluids inside the casing during the cement job. There are many designs and combinations of float collars and guide shoes, but the essential features are as shown in Fig. 1.

Casing centralizers are used to centralize the casing in the hole at strategic points so that cement may fill the annular space on all sides of the casing.[1] If centralizers are not used, the pipe may lay against one side of the hole, in which case the cement slurry will channel through the large space and will not fill the entire annulus nor provide an effective seal against fluid migration.

Wall cleaners are of various types, but all are similar in that they have cleaner spikes of spring-steel wire that produce an abrading action to remove mud filter cake or other loose materials from the wall of the hole as the casing is moved by rotation or reciprocation.[2,3,5]

Plug containers are often used on top of the casing so that cementing plugs may be released at the proper time during the cementing job without opening the casing.[4] A bottom cementing plug, placed ahead of the cement, is used to separate the cement in the casing from the drilling mud or other fluids and to wipe the casing clean ahead of the cement to prevent contamination.[3] A top plug is placed on top of the cement column in the casing. Drilling mud or other fluid is then pumped behind this plug which, as it moves downward, forces the cement slurry around the shoe and up into the annular space where it is allowed to set between the casing and the formation. The bottom plug contains a diaphram that ruptures under pressure when it comes to rest on the float collar, allowing the cement slurry to flow past it. The top plug is solid and so constructed that when it comes to rest on the bottom plug, at the float collar, it causes a complete shut-off allowing no further fluids to be pumped into the casing. This prevents over-displacement of the cement slurry and insures good quality cement around the casing seat where a good seal is usually desired. This procedure of cementing casing is illustrated in Fig. 2.

Liner Cementing

A liner is a pipe similar to casing which is placed through the uncased portion of a well, but which does not extend through the intermediate string to the ground surface. The liner is run into the well on drill pipe or tubing by means of a liner-setting tool, and usually extends from the lower portion of the intermediate casing to the bottom of the well. It serves the same purpose as casing throughout the portion of the well in which it is placed.

Cement is pumped down through the tubing or drill pipe and comes up around the liner as with ordinary casing. Usually this operation must be performed without the use of cementing plugs and some of the other cementing aids. Liners are quite common in deep wells where it is expensive to run a full string of casing for the production string.

Channeling and Contamination

As cement slurry travels upward in the annulus behind casing, it tends to thicken some drilling fluids with which it is in contact. This thickened mud at the interface between the cement and the drilling fluid may bridge, causing the ce-

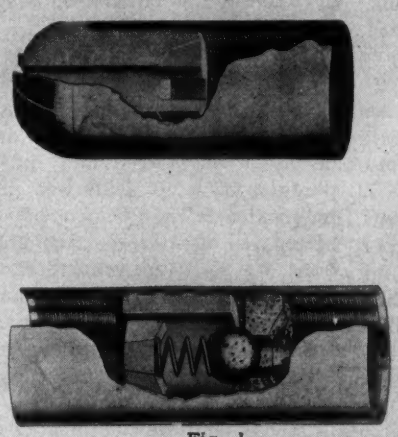

Fig. 1

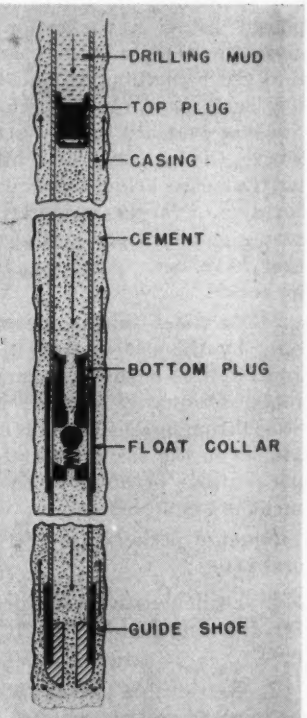

Fig. 2 - Casing Cementing

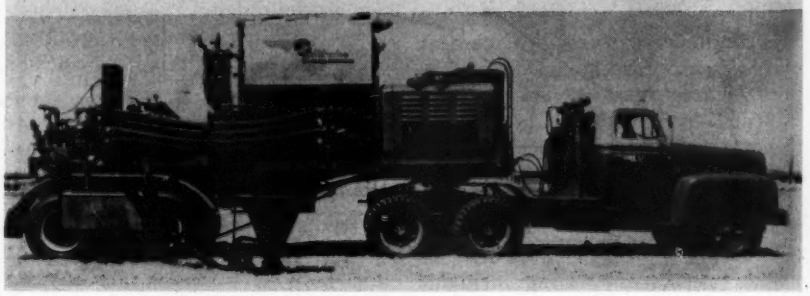

Figure 3

ment slurry to break through and channel leaving pockets of gelled mud. This may lead to an unsatisfactory cementing job.

To combat any reaction between the drilling mud and cement slurry in the annulus, many companies use a wash ahead of the cement.[2] This wash may consist only of several barrels of fresh water, or it may be water containing dispersing agents, acids, salt, calcium chloride, phosphates, and other materials depending upon the nature of the drilling fluid, well conditions, type of cement, and other factors. Such washes are also used to combat the deleterious effects of some mud-treating chemicals on the setting of cement.

Squeeze Cementing

A squeeze job may be defined as any cementing job where cement is placed below a packer or into a closed-in well where it is forced into the formation, around the casing seat, or through perforations. Squeeze jobs are usually performed where the primary cementing job has failed to achieve adequate segregation of various strata behind the casing or where portions of the well that have been perforated need to be sealed.[6]

Many times this is accomplished only by the use of high pressures and requires heavy-duty pumps and tools. Ordinarily squeeze jobs are done through squeeze packers, which are set in the casing just above the perforations or point where the cement is to enter the formation.

Squeeze packers are of two general types:[4]

1. Drillable packers which, when set, can only be removed by drilling out.

2. Retrievable packers which can be released and pulled from the well after the squeeze job has been performed.

In permeable formations, cement under pressure can dehydrate to the point where it is no longer fluid. Where this occurs, it is possible to use a retrievable squeeze packer and not have cement flow back into the well when the packer is removed. Where sufficient dehydration does not occur, it may be necessary to use a permanent-setting drillable squeeze packer which is left in place and drilled out, if desired, after the cement has set. This type of squeeze packer can also be used as a bridge plug above which other operations may be performed without fluid going below the packer.

Squeeze jobs are usually performed when excessive amounts of water or gas are being produced with the oil, or a zone has been depleted. This may entail squeezing off producing perforations and reperforating at the same or different levels. If the casing has been set on top of the producing formation and the well completed "open hole," the squeeze packer may be set just above the casing seat and cement forced around the shoe.

Squeeze jobs are sometimes performed in open hole without the use of squeeze packers by simply running the drill pipe to the desired depth, closing in the casing at the surface, and forcing cement into the formation. This is often done in overcoming lost-circulation troubles.

Plug-Back Cementing

Another common cementing operation is plug-back cementing. In many instances wells are drilled deeper than desired and must be plugged back to shallower depths before the well can be properly completed. In most cases, plug jobs are done by spotting cement through tubing at the desired point, pulling the tubing out of the cement, and letting it set in place. This can be a rather simple job when plugging back from the bottom of the well, or it may be quite complicated when placing a plug of cement up in the hole without the use of bridge plugs.

Small plugs of cement at the bottom of the well are many times placed with a dump bailer. This is often the case in a water-drive field where the water table has risen and it is necessary to plug back a few feet to eliminate the encroaching water. Special cements containing thermosetting resins are often used for this purpose.

Other plug-back operations are for the purpose of setting whipstocks to sidetrack the old hole or for directional drilling. If this needs to be done in hard formations, the cement plug must be very strong and hard in order to achieve the desired results. Hard silica sand is often mixed with cement to give it added hardness for these operations.

Multiple-Stage Cementing Tools[4]

In areas where it is known from previous experience that it is practically impossible to place cement to the desired height behind the casing, a multiple-stage cementer may be placed in the casing string above the point where the top of the cement column will rise during the initial cement job. The multiple-stage cementer makes it possible to effectively place more than one stage of cement on the outside of the string of casing at different selected elevations. This tool operates with a series of sleeves and ports. It is possible to open ports through which cement can be pumped and which can be again closed after the cementing job is completed. By the use of this tool, the initial cementing job can be performed, the cement allowed to set, and the second cementing job performed above this through the ports in the multiple-stage cementer.

Blowout Control

Another use for oil-well cement is for fighting blowouts. When killing a wild well, heavy mud slurries are usually pumped into the well followed by cement. Such jobs often require a large amount of high-pressure equipment and practically all of the cementing procedures previously described may be required with a variety of cementing materials before the well can be brought under control. At times, alternate batches of different cements are pumped into the well which will "flash set" when mixed together after leaving the pipe or tubing.

If the well has blown out in such a manner that it is impossible to pump anything into it, a directional well may be required before the well can be killed. This directional well must be started at a safe distance from the blowing well and drilled so that the bottom of it and the bottom of the wild well will be at the same point. Then heavy mud and cement can be pumped into the wild well through the directional well in order to bring it under control. Killing wild wells is often a very costly procedure.

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Equipment and Materials

Surface Equipment

Cementing trucks are of various sizes and designs, depending upon the type of operation they are expected to perform. In general, they are large units with one or more high-pressure pumps and possibly one low-pressure mixing pump. Deep-well cementing requires high-volume, high-pressure pumps, where volume, high-pressure pumps, whereas shallow wells or surface pipe may require only relatively low-pressure equipment. Some present-day equipment is capable of pumping under pressures in excess of 12,000 psi. These pumps usually have their own power sources and require as much as 300 horsepower. A typical cementing unit of this type is shown in Fig. 3, with a close-up view of the pumps and mixer shown in Fig. 4.

Most cementing slurries are mixed through a jet-type mixer. Cement slurries can be mixed continuously by this type mixer at rates varying from 10 to 40 sacks per minute.

Most cement being used to cement oil wells is handled in bulk rather than in sacks. The cement is shipped from the mill in enclosed hopper-bottom railroad cars to the bulk cement plant of the service company. At the bulk cement plant various additives are blended with the cement, as may be necessary for the job on which it will be used. This cement is then carried in mobile units to the well where it is discharged into the hopper of the jet mixer as the well is cemented.

Cementing Materials

Cements must possess three primary properties to be acceptable for cementing oil wells and a number of secondary properties to be classed as satisfactory oil-well cements. Primary considerations in selecting a cement for use in a given well are:

1. **Thickening Times.**[7,8] A cement must possess enough thickening time (the time the cement slurry is fluid enough to be pumped) to allow it to be placed in position in the well with a reasonable factor of safety. This thickening-time requirement will vary greatly from well to well, depending upon such factors as well depth, bottom-hole temperature, bottom-hole pressure, and the amount of cement to be placed.

2. **Setting Time.** Cement must set within a reasonable time after being placed in the well.

3. **Strength.**[7,8] The cement must develop sufficient strength to allow operations to be resumed within a relatively short time, usually within 24 hours or less. This is important, because many large rigs cost in excess of $700 per day and all time lost waiting on cement is merely added expense.

Common construction cement (ASTM Type I) is ordinarily satisfactory for cementing wells having depths of not more than 6,000 ft. For wells of greater depth, this type of cement often does not have sufficient thickening time to allow proper placement. Under such conditions, special oil-well cements must be used which can be pumped for longer periods of time under the conditions of high temperature and pressure existing in deep wells.

High pressure and temperature drastically accelerate the setting of portland cement. Thus the conditions of deep wells are such that only short thickening times are obtained with ordinary construction cements. Because long fluid times are necessary for placing cement in deep wells, special retarded-setting oil-well cements have been developed for this use. Several companies are now manufacturing oil-well cements that are satisfactory for use in wells to 14,000 ft. deep. Cements must be especially retarded with additional retarders and additives when used at depths below 16,000 ft.

Tentative API specifications have recently been adopted covering the chemical and physical requirements of cement designated for use in cementing oil wells. These specifications are now available through the API Division of Production, Dallas, Texas, for those wishing to obtain them.

An API code for testing oil-well cements has been available for several years and is becoming standard procedure throughout the industry for testing cements for use under various well conditions.

Of secondary consideration in selecting oil-well cements are the following properties which have little bearing on the actual cementing job itself, but which are nevertheless important.

1. **Corrosion Resistance.** Cement must be resistant to water or other fluids in which it may be in contact after setting. Many waters which contain soluble sulphates, or other compounds that have a deteriorating effect on cement, are encountered in various areas. In such areas sulphate-resistant cements are needed.

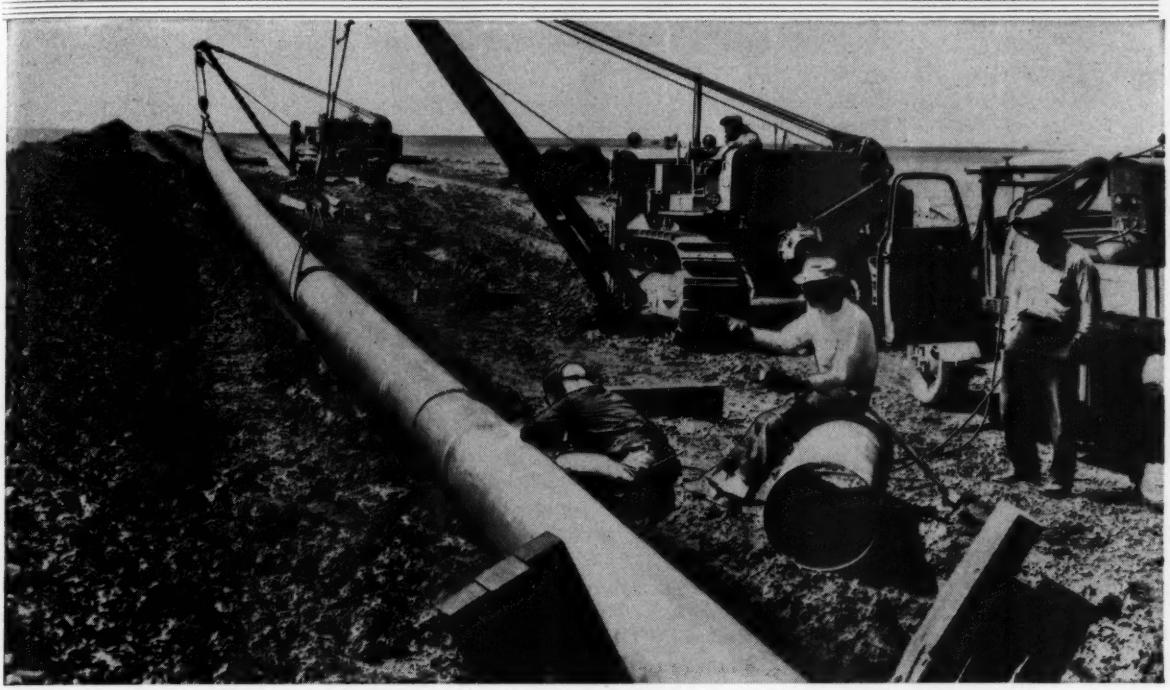
2. **Perforating Qualities.**[9] In some wells, relatively thick sections of cement must be perforated after the cement has attained its approximate final strength. Under such conditions, perforating may be difficult or the cement may shatter badly when perforated. Special cementing mixtures have been developed which have low strengths with good perforating qualities.

Cement Additives

Many areas have formations which tend to take drilling fluids or cement slurries, if the fluid pressure on these strata exceed certain values. The pressure exerted on these formations during a cementing job is a combination of the pump pressure necessary to circulate the hole and the hydrostatic pressure of the fluid (drilling mud and cement slurry) in the annulus. Because little can be done to reduce the pump pressure, most of the pressure reduction must be accomplished by reducing the density of the cement slurry which, in turn, reduces the hydrostatic pressure exerted by the column of cement.

The principal means of reducing the density of the cement slurry is by the addition of water-absorbing clays or aggregates. Wyoming-type bentonite is the normal additive used for obtaining slurry weights between 12½ and 15½ lb. per gal.[10,11,13] If a bridging material is needed along with light slurry weight, expanded perlite aggregates are often used. Expanded perlites are extremely light-weight aggregates that have been expanded (popped) by heat in such a manner that the particles have an extremely large amount of pore space which absorbs water under well conditions and causes a reduction of slurry weight. In addition to reducing the weight of the slurry, perlite particles tend to bridge openings in the

PIPE LINE PROGRESS



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DEPENDABILITY THROUGH RESEARCH AND ENGINEERING

formation through which cement slurry is lost, thus restoring circulation in the annulus.[11].

Cellophane flake, mica flake, ground walnut shells, and other materials are sometimes used in cement as bridging agents to restore or prevent lost circulation. Many of the fibrous materials used in drilling fluids for this purpose are not satisfactory for use in cement slurries as they adversely affect the setting of the cement. Some of these may cause the cement to remain unset for a period of several days at low temperatures.

Most chlorides have an accelerating effect on the setting of cement.[14] Calcium chloride has been the standard agent for accelerating the setting of cement, both in oil wells and construction concrete for many years. Sodium chloride (common table salt) has an accelerating effect in some concentrations, but is not as effective as calcium chloride. Sea water and most oil-well brines also accelerate the set of cement when used as the mixing water. Such waters should be tested prior to use to determine their exact effect.

Many of the oil-well cements manufactured for deep-well cementing contain chemical retarders. Most of these are organic chemicals of complex nature such as lignins, starches, etc. Some of these are adaptable to blending with bulk cement at the bulk plant. In this way, a cement can be retarded to meet specific well conditions. These conditions might vary from wells 6,000 ft. deep and with relatively low temperatures to those as deep as 20,000 ft. or more with bottom-hole temperatures in excess of 350 deg. F.

Radioactive tracers are sometimes added to the initial part of the cement slurry entering the well so that the top of the cement column in the annulus can be found at a later date by the use of a radioactive log. This type of material is used also to locate thief formations in the same manner.

Saturated salt water is often used as the mixing water for cement slurries where the cement is to be placed adjacent to salt formations in a well. Fresh water in cement slurries tends to dissolve salt against which it is placed, thus giving a poor bond under some conditions. Cement slurries prepared with saturated salt water give an excellent bond to salt formations and eliminate any possible channels between the set cement and the well bore in these zones. Saturated salt water (N_aC_1) will not accelerate the set of ASTM Type I cement and can be safely used for mixing such cement. It should not be used in cements containing other chemicals or additives without first testing its effect on these cements.

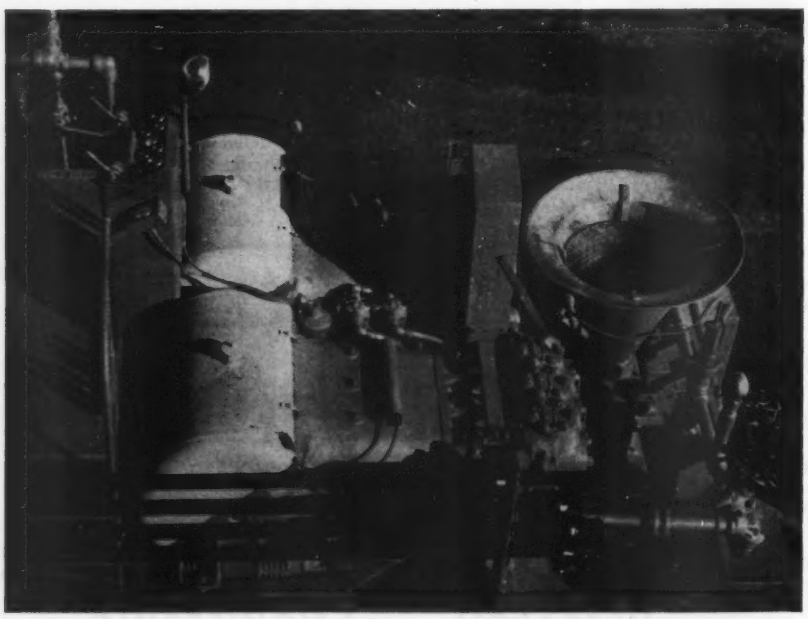


Figure 4

Cement Types

The types of cement now commonly used for cementing oil wells are:

1. ASTM Type I—Common Construction Cement. This cement is normally satisfactory for cementing wells to depths of 6,000 ft. With the addition of retarding agents, it may be satisfactory for use to depths of 14,000 ft.

2. ASTM Type III—High Early-Strength Cement. This cement is used in some areas for cementing surface pipe or shallow wells having low temperatures.

3. Special Oil-Well Cements.

a. Slow-Setting Cements.
These might be defined as cements having modified clinker composition and are usually safe for use in wells to approximately 12,000 ft. in depth.

b. Retarded Oil-Well Cements.
Retarded oil-well cements, in addition to usually having a modified clinker composition, also contain a chemical set retarder. These cements are usually satisfactory for use in wells to depths of 14,000 to 16,000 ft.

c. Sulphate Resisting Cements.
These are cements that have been modified to resist the disintegrating action of sulphate waters. Some slow-setting and retarded oil-well cements are more sulphate-resistant than ASTM Type I cements.

d. Pozzolan Cements.
Pozzolans are special reactive silicas that have no cementitious qualities by themselves, but which are reactive with lime to form a compound that sets in much the same manner as portland cement, except the setting occurs over a much longer period of time. Set pozzolans are more resistant to the disintegrating action of sulphate and other salts than are portland cements. Pozzolans can be blended with portland cements to impart special properties to the cement slurry, thus forming what might be considered a premium-quality cement.[15]

e. Low Water-Loss Cements. Cements have been developed containing special additives that reduce the water loss to very low amounts as tested on the Baroid mud filter

press. These cements are desirable for use in some squeeze applications, as well as in casing cementing where low water-loss is important.[2]

4. Other Special Materials. Other special cements have been developed for various applications in cementing casing, squeezing, or for forming temporary or permanent bridges and plugs. Examples of these are:

a. Gypsum cement.

b. Thermosetting resins.

c. Combinations of resins and cements.

Other Aids to Cementing

Electrical Logs

Electric logs are valuable aids in choosing casing-seat points, selecting proper points for mounting centralizers and wall cleaning devices, and for determining the general characteristics of the various formations that have been penetrated. The selection of the proper casing-seat point is very important for surface and intermediate strings of casing. Many joints of casing have been "whipped off" surface or intermediate strings during subsequent drilling because the casing seat was set in very soft formations or enlarged holes. Centralizers do little good unless set in sections of the hole that have not been washed out or enlarged during drilling. Likewise, wall cleaners are effective only when placed in the portion of the hole that is small enough for the spring fingers to contact the wall of the well bore as the casing is moved. Electrical logs afford information that enables these devices to be placed where the hole is approximately of gage size. Electric logs are also indispensable in some areas in selecting the proper section to be perforated after the casing has been cemented.

Caliper Logs

Caliper surveys give a picture of the size of the hole vs. well depth. This log will show the points that have been enlarged during drilling and those that are essentially still in gage or bit size. This information also indicates the points where centralizers and wall cleaners will be most effective. The volume of cement slurry necessary to fill the annulus to any desired height can be calculated from a caliper survey, assuming no loss to the formation.

Temperature Surveys

Temperature surveys, made within a few hours after cementing a well, enable determination of the height to which the cement rose behind the casing. This is possible because the heat of hydration of the cement causes an increase in temperature of the fluid inside the casing opposite the cement. The optimum time for making temperature surveys will vary with the cement being used, the depth and temperature of the well, and other factors, but will generally fall within a 2- to 12-hour period after the cementing job has been completed. If no caliper survey was available prior to running casing, a temperature survey made at the proper time will indicate which sections of the hole have been washed out, inasmuch as large pockets of cement behind the casing will produce higher temperatures than thin sections of cement. Temperature surveys can be used to determine the point of lost circulation during drilling, if properly conducted.

Gun Perforating

Producing formations can many times be better segregated by setting the casing through the entire producing zone and then gun perforating for production after cementing. This is especially true where the producing zones are only a few feet thick and separated from other undesirable formations by only thin sections of shale or other impervious materials. Many wells could not be completed without this service.

If, for some reason, the primary cementing job fails to eliminate water or unwanted fluids from adjacent zones, it is many times necessary to perforate the casing and squeeze these zones before the well can be properly completed.

Summary

Following is a summary of the considerations necessary prior to and during a cementing job in order to obtain the best possible results.

1. **Relation of hole size to casing size.** For best results, the diameter of the casing should be between 2 and 4 in. less than the hole diameter. This will leave an annulus of 1 to 2 in. in a properly centered casing.

2. **Logs.** Electric and caliper logs should be consulted, if possible, to determine the optimum point for placing centralizers and wall cleaners and for obtaining general information concerning the well.

3. **Floating equipment.** Select the type of floating equipment best suited for well conditions, and choose its spacing in the casing string accordingly.

4. **Multiple-stage equipment.** If a multiple-stage cementer is to be used, its position in the casing string should be carefully selected for the job intended.

5. **Running casing.** When running casing in deep wells, circulation should be established at various levels on the way down and maintained at least long enough for the bottom fluids to reach the surface and until all chunks of mud filter cake, cuttings, and other solid materials have been removed from that portion of the well.

6. **Type of cement.** A cement should be chosen which will give the proper thickening time for the job in question, and which will set within the desired time to allow resumption of well operations. Consideration should also be given to slurry characteristics such as slurry weight, viscosity, gel properties etc., as well as considering the type of formation fluids in which it will be placed.

7. **Cementing plugs.** Cementing plugs should be chosen that will most satisfactorily prevent contamination of cement and drilling fluids, and which will interfere least with subsequent operations.

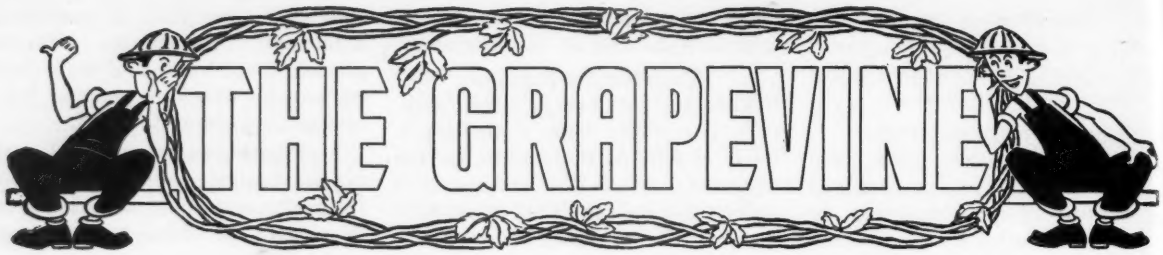
8. **Surface equipment.**

a. **Plug containers.** Plug containers should be selected which will release plugs at the proper time with a minimum delay so the fluid travel of the cement will be interrupted as little as possible during the job.

b. **Pumping equipment.** Pumping equipment should be adequate to handle the desired volume of slurry under whatever pressures might be encountered during the job.

c. **Casing-movement equipment.** If wall cleaners are used, proper surface equipment and connections must be provided to take care of the rotational or spudding movement of the casing as required.

(Continued on page 34)



A recent bulletin from Lev Sacre, the perennial penman, or Hook Shot as he is officially known, of that illustrious body, the Nineteeners, indicates that four new members have been taken into the fold. This, of course, means more numerous, larger, and broader divots, and, in turn more work for the professional turf replacers who normally follow the Nineteeners around. It also means that the daring people who live in the vicinity of the golf courses will have to hire bull-dozers and things to push the said divots off their front lawns which will keep another tribe of artisans busy. So, you see, it looks as if, regardless of the Korean armistice, we here in Southern California are a cinch to enjoy prosperity for some time to come.

The four gentlemen who are about to ally themselves with the Nineteeners are Wendell Jones, the vice presidential Bethlehemite with the elevated tenor; Allen Dragge, the personable manager of A. O. Smith Corporation; Jack Perrin, the handsome and wholesome son of Jay Perrin, the originator of the entire institution and its first Big Shot; and Fox Boswell, prexy of the Boswell Petroleum Company of Long Beach, a considerable attache of the Virginia Country Club, and a golf sharpie if we are to judge from his seven handicap. These noted whalers of the good earth will have been initiated with due ceremony before this issue hits the newsstands and we are certainly looking forward to the rites with pleasurable anticipation. Look for the sordid details in our next offering.

The mention of Wendell Jones reminds us that a short time ago we read the second European diary of Wendell and his good lady, Elberta, and it is as full of meat as an ostrich egg. This entertaining duo of scribes and observers recently traveled through Spain and Switzerland, and thence to Paris for the Rotary International Convention. They next visited London, England, where they had front row seats for the coronation. After that exciting experience, they did the Scandinavian countries and Scotland, and their colorful descriptions of people and places along the way are unusually well done. In fact, we can't understand why the Joneses don't collaborate on a book —lots of less qualified people have done it. With their combined flair for descriptive narration and Elberta's facility in the graphic arts, they ought to be able to whip up a pretty appetizing mess of publication pottage, if we may coin a distinctly inept phrase and we'd like to see anybody try to stop us.

Now diverging somewhat more than slightly, about 90 Nomads and guests were royally entertained down at Long Beach the other day by that well known cribbage player, Frosty Martin, who, in his spare time is chairman of the Long Beach Harbor Commission. The gang enjoyed a full day of sight-seeing around the shore line of the richest oil town in America and profited no end (intellectually, of course,) by the adventure. It was by all means an interesting seance, opening with a bus trip to the principal piers and warehouses, later including a look at the whole layout from the seaward side, and finally winding up with a lesson in sheep shearing by Eloi "Frenchy" Amar, the multilingual and much experienced port manager. Throughout the trip and during the dinner at the Pacific Coast Club in the evening, the group was well primed on the city and its projects by Al Maddy, executive secretary of the Harbor Board, Frank Hardisty, chief petroleum engineer, French Amar, already introduced, and Bob Metzger, the public relationist.

In the early evening we became involved in a friendly joust of gin rummy with Don Grubbs, the Oilwell Supply head man, as our partner, against Elmer Wycoff, the ubiquitous National Tube representative, and Jim Hughes, the Lane-Wells Hibernian and current prexy of the local Nomad chapter. For a time this fracas looked as if it might end disastrously, but just as we were about to swallow the cyanide pill that we keep sewed in the lining of our jacket for such occasions, the tide turned and we were able to make up the shortage in our accounts quite a while before the auditors arrived. Like we've always said, there is a Divinity that looks after incompetent grownups and small children!

Going back briefly to the Nomad outing, it was really one of the nicest events we have attended in quite a while. There were scads of lovely people present, including a considerable representation from foreign fields and some very distinguished domestic guests. We glimpsed several amateur photographers rudely snapping their little shutters at people and things, among them Murray Walker, a Scotsman several generations removed who gives his all for Lane-Wells; Waldo Moore, the Cavins chap, with whom we were associated in Union Oil Company's research lab just following the Spanish Inquisition; and Jim Hughes, the oratorical smoothie already mentioned. Between them, these victims of focal frenzy ought to come up with some graphic evidence of an interesting experience for which everyone felt more than indebted to Frosty and his accommodating associates. The sail around the Harbor was a distinctly novel adventure that was fully appreciated, and after Frenchy Amar's discourse on the ways and wants of the

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SALT WATER SPINNER EXPERT

Jerry Talbert Ledbetter, commonly known as "Tal," the rosy-cheeked lad who functions capably as division superintendent for Union Oil Company of California, is a native of Drake'e Creek, Madison County, Arkansas. He doesn't remember a thing, however, about the big mosquitoes made famous by Bob Burns of Van Buren, because he left Drake's Creek at the early age of four to go adventuring in California.

He grew up on the CCMO lease in Carbon Canyon and soon had become an incurrable victim of the petrolic yen. He attended Brea High School, and later University of Southern California, from which he graduated in 1933 with a degree in petroleum engineering and a strong desire to make some use of it. While at USC, incidentally, he was third string tackle on the varsity team but that was in the days of Iron Man Tay Brown, the regular tackle, who never played less than 59 minutes in a game. That left one minute to be divided between tthe 2nd and 3rd tackles, so Tal's on-bench time is probably a west coast record.

In any case, after graduation, he joined Union Oil Company as a roughneck at Coalinga, and subsequently had thedoubtful distinction of working for this writer as a field gauger in the Poso Creek field. Then he was assigned to mud research and for the next four years worked in the Wilmington lab with Phil Jones, the noted straddle putter. In 1939 he was appointed assistant petroleum engineer at Bakersfield. Two years later he was elevated to the position of division petroleum engineer in the San Joaquin Valley, and in 1946 he went down to Hernandarius, Paraguay, to look after operations down there. Upon his return he was named drilling superintendent and shortly thereafter was made division superintendent.

Tal is a pleasant sort of a chap with a good sense of humor and he appears to enjoy what he has to do with real zest. In his spare moments he likes to hie to any nearby beach and experiment with salt water spinning tackle, a process that has brought him some excellent fish dinners—and several old shoes. He was recently appointed chairman of arrangements for PPP, succeeding Charlie Reichert, a post he had pretty well earned through his unstinting efforts in other capacities for the pioneer organization, and there is little doubt that he will handle it with distinction.

ovine, there isn't a Nomad who won't from now on be able to go in for sheep farming when he tires of the oil business.

Had an invitation to the Desk & Derrick Club's press cocktail party in the Onyx Room of the Brown Palace Hotel, Denver, during the International D & D Convention there, but they forgot to enclose our railway ticket. As a result, we have decided to don our chaps and other bronco busting regalia and hobnob with the D & D cowgirls at the Huntsinger Corral in Ventura come September 1. We'd shore like tuh jine the gals at Denver but this here Ventura rodeo, besides offerin extry fine gustatory exercise, effen yuh know whut we mean, is also right clost tuh hum wich tuh a man of our years is a right powerfle attrakshun.

All of which reminds us that the Ventura chapter of API will convene at Camp Comfort, Ojai, for its annual barbecue on Thursday, September 17, and if it is half as good as it was last year it will still be twice as good as it needs to be. Watt Lupton is the chairman of this interesting organization, and Harry Buchanan, the Bell & Burden veep is the one to see if you want some tickets—and who doesn't? The boys always raffle off a stash of pretty valuable prizes at these affairs which brings the Scots out in large numbers. Last year we almost won the door prize but it is really lucky we didn't because actually we already have all the doors we can use. Anyway, if you want to see everybody who is anybody in the Ventura area all at one time and in one place better give Harry Buchanan a ring. This is decidedly the Number 1 stag soiree in the Ventura social swirl!

There have been some pretty well known petroleum people visiting in our area lately. We spotted cousin Pick McIver, the crude buyer, complete with pipe, a short time ago, convoying a flotilla of high Shell brass that looked mighty formidable, around the derrick groves. Among them were New Yorker, A. P. "Art" Ruether, manager of the crude oil department, who is sort of looking ahead a bit for a nice place to settle down some day and the way he feels at the present time would probably prove a soft touch for a California real estate agent; Dene Hodges, vice president of transportation and supplies, also from New Amsterdam, but once a substantial citizen of Ventura; Bob Richey, manager of transportation and supplies for Shell in Toronto, Canada, and Carl Patch from the other end of the Dominion, Vancouver, B.C., to be exact, both amazed at the extent of oil and gas operations down here in the deep south; and Don Crites, manager of the Houston crude oil department and a close relative of Pop Warner, the noted Stanford grid coach.

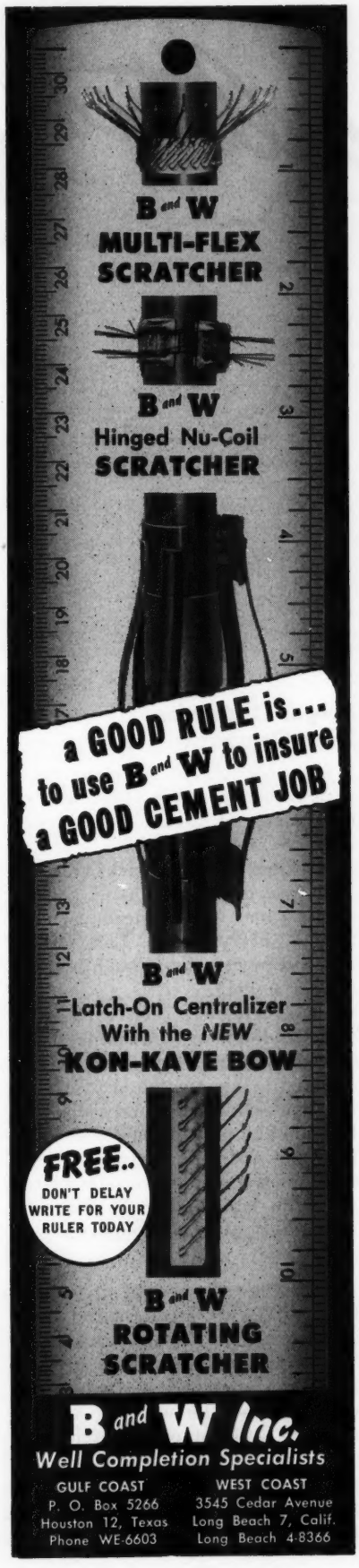
Also in the party were Ernie Blinn, assistant manager of the crude oil department at Houston; Don Sears, vice president of the pipe line corporation at Houston; and R. Charles Nicholson, superintendent of pipe line movements in the Gulf area. All three of these gentlemen were having their first sight of the blue Pacific and appeared to be mighty pleased with what they saw. Came also from New York, a pronounced Caledonian, Bill Stewart of the manufacturing department, a laddie who is given to wearing balmoral caps and treating his friends to a concoction known as Wild Turkey bourbon; and three more citizens of Manhattan, Elmer Griffiths, Dick Burnley, and Harry Jacobs, who came out to the far west to get cooled off but found it hotter than a Louie Armstrong version of the St. Louis Blues. However, Pick must have handled his hosting responsibilities in good shape for his guests looked fit as so many fiddles when we saw them and seemed thoroughly acclimated to the richly vitaminized atmosphere of Southern California.

And although we haven't run across their spoor yet, we happen to know from sundry inescapable signs that another estimable pair of Texans are rambling about the village as this is being written. We refer to these two stalwarts, Ed

Trout, vice president of Lufkin Foundry and Machinery Company, from the consequential bailiwick of Lufkin, and Alvin "Dutch" Zwerneman, the prexy of Atlas Pipe Company, from the hustling hamlet of Houston. Ed, although now situated in Lufkin, once operated widely in these parts and is well and favorably known among our Pacific petroleum people. However, persons with skimpy means, those born under the sign of Sagittarius, and those born under any other sign, should be warned never to play gin rummy with this lad for in the process of collecting sets and sequences, he is sharper than a surgical scalpel and more than twice as expensive. In a moment of madness we once tangled with him in a game of gin rummy out at Wilshire and before we even had our first hand sorted, he was counting out in the third column.

As for Dutch, it seems rather futile to attempt to introduce a chap who has more friends than Orphan Annie and more energy than Superman. We western folk missed him badly when he took off for Texas a while ago, but we knew he would do well wherever he might light, for Al, although he is a man's man in the true sense of the term, is first and last a gentleman. Long before we were any more than casually known to a few persons in the petroleum industry, we can remember meeting him at various oil outposts and being treated by him with much more graciousness and deference than we either expected or deserved. That sort of thing one doesn't forget and what we've learned since has not diminished by the slightest iota our profound regard for this ebullient but kindly and altogether likable son of the Lone Star state.

Charlie Reichert, National Supply Company sales manager, and one of the industry's most efficient organizers, has left for New York and on September 9 will sail to England aboard the **Queen Mary.** There he will probably remain for about a year in connection with problems affecting the Company's export business, making his headquarters with Oil Engineering, Ltd., a pretty substantial British industrial entity in which National has a half interest. Charlie is definitely one of our favorite people and apparently he is the favorite of many others, for he was elected Illustrious Potentate of Al Malaikah Shriners in 1952, and that elevated post goes only to the best. During his term of office, Al Malaikah opened a hospital for crippled children of all races and creeds, and of that Charlie is mighty proud. He is treasurer of the Pacific Coast API division of production, is a long time member of CNGA, and has been one of the best behind-the-scene workers PPP ever had. As he goes overseas he takes with him the best wishes of everyone who has ever had the good fortune to meet him and that means most of the oil men on the West Coast, including ourself, for there is just one thing Charlie Reichert couldn't do even if he tried his very best—that is, make an enemy.



And now by way of last minute roundup, we are happy to report that Glen Pitts is off the critical list and is making very satisfactory improvement. However, Glen is still a pretty sick boy as we write and is not allowed any visitors. Drop him a note when you can at the Seaside Hospital—he'll be pleased to hear from you. We hear tell that Lee Laird is no longer with Baash-Ross. Wally Sawdon did a swell job of arranging that Long Beach party for the Nomads. Bill Pemberton and Earl Gilmore are on their way to Africa to shoot big game—with their cameras. And that's it for now, cheerio!

A farm boy who made good in a big city asked his mother to visit him.

He reserved for her the best room in a big hotel—one with a private adjoining bath. Next morning he asked: "Did you have a good night's sleep, Mother?"

"No, I didn't," the woman confessed. "The room was all right and the bed was comfortable; but I couldn't sleep because I was afraid someone would want to take a bath, and the only way to it was through my room!"

Mother: "Stop using those bad words."

Son: "Shakespeare uses them."

Mother: "Well, don't play with him any more."

Personalities IN THE NEWS

Siciliano Of Procon Named Assistant Secretary of Labor

Rocco C. Siciliano, supervisor of labor relations for Procon Incorporated, has been confirmed by the Senate as an assistant secretary of labor.

R. C. Siciliano

Siciliano, who also was assistant secretary of Procon, construction subsidiary of Universal Oil Products Company, is expected to take over his new duties in a short time.

The new assistant secretary of labor is a lawyer and former legal assistant to a member of the National Labor Relations Board in Washington. He joined Procon three years ago after leaving the NLRB, where he worked from October, 1948, until 1950.

Siciliano, a member of the bar of the District of Columbia since 1949, is a veteran who saw combat service with the 5th Mountain Division in Italy in 1944 and 1945. He was a first lieutenant, and served in the armed services from 1943 through 1946.

He was born March 4, 1922, in Salt Lake City. Siciliano was graduated from the University of Utah in 1944 with a Bachelor of Arts degree in political science. He attended the law school of Georgetown University, Washington, D.C., from which he was graduated in 1948 with a LLB. degree. He is a member of Tau Kappa Alpha, national debating society, and the Beehive Society, an honorary scholarship and activity society.

Siciliano, who lives in Prospect Heights, Ill., a suburb of Chicago, is married and has three children, Loretta, 4; Albert Vincent, 3; and Fred, 1.

Siegel Organizes New Company

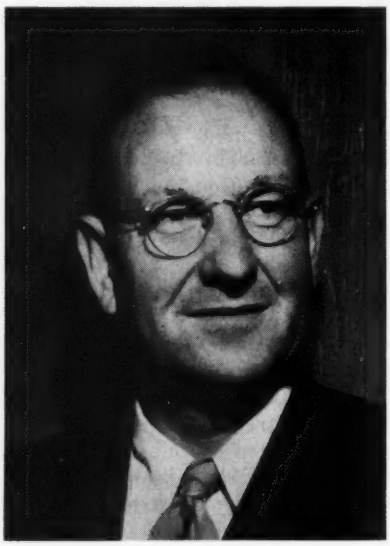
J. J. "Joe" Siegel, for many years with Kobe, Inc., and widely known in western oil circles, has resigned from the firm to launch his own pipe perforating and prepack concern. The new company, Tryad Service Corporation, will be headquartered at 3914 Cherry Avenue, Long Beach, and will be in full operation by September 1, 1953.

Siegel who has been with Kobe since its founding and is one of the original stockholders, will be associated in his new enterprise with Norman Schrank, formerly pipe perforation and prepack superintendent for Kobe, and John Augsburger, eminent pioneer oilman, long associated with the late Arthur N. Macrate, successful California operator.

Fred Blair Townsend, nationally known Phoenix attorney and leading figure in furthering the possible development of petroleum in Arizona, was a recent Los Angeles visitor. He made known that Arizona is being combed more extensively than ever before by the larger operators in an all-out search to score the state's first commercial oil discovery.

Jones Named Chief Engineer of Axelson

Douglas M. Jones formerly Assistant Chief Engineer and Technical Consultant, has been appointed Chief Engineer of Axelson Manufacturing Company, Division of Pressed Steel Car Company, Inc., according to an announcement made by W. W. Greenway, Vice-President of Pressed Steel Car and General Manager of Axelson. Mr. Jones succeeds Glynn H. Williams, who has been advanced to a special Production Engineering post.



Douglas M. Jones

Mr. Jones, an engineering graduate of the University of California, has been with Axelson since 1936. For six years prior to joining Axelson he was with the E. M. Smith Company. Mr. Jones is well known, both nationally and in foreign production offices, for his technical writings and development of methods relative to engineering of sucker rod pumping installations.

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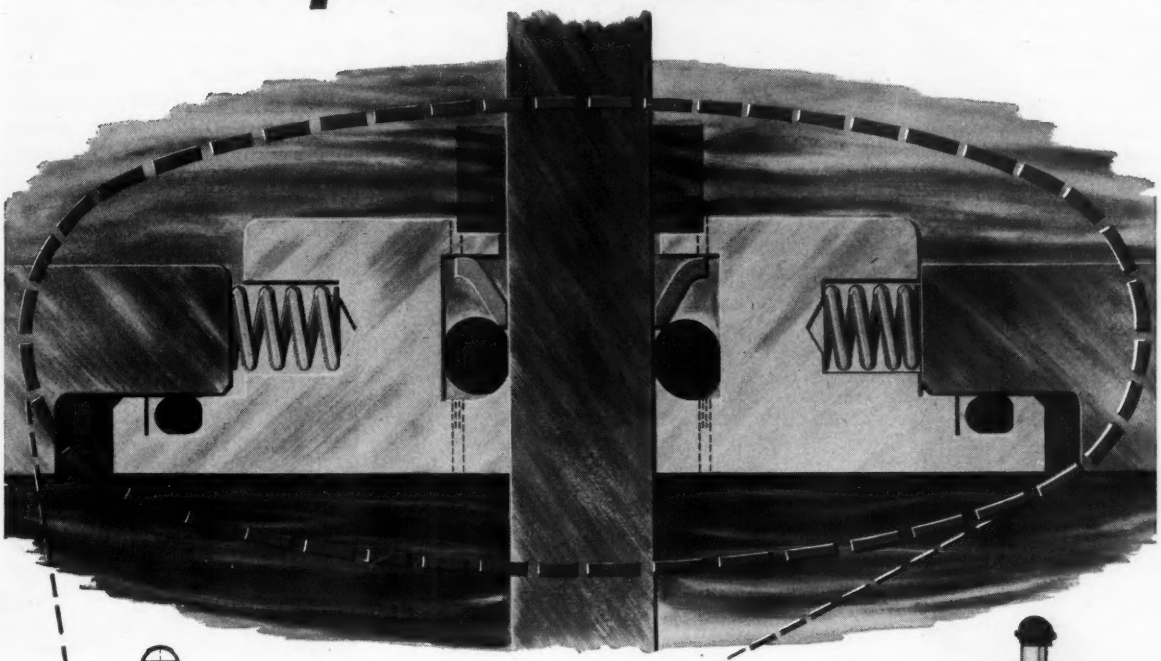

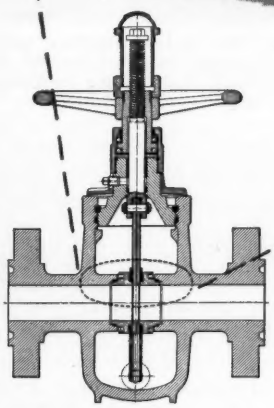

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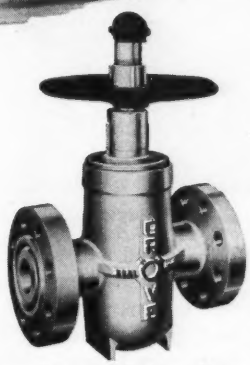

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Two Promotions At Axelson

J. R. Walker, Sales Mgr., Petroleum equipment div. of Axelson Manufacturing Company, division of Pressed Steel Car Company, Inc., announces two promotions in his department: Clayton E. Rose to California Sales Mgr.; Dolph L. Witzel to Ass't. California Sales Mgr.

Clayton E. Rose

Rose started with Axelson in 1935 in the company's Taft field store. He served three and one half years in the U.S. Navy during World War II, being discharged with the rank of Lt. Commander. Before his current promotion he served as Ass't. California Sales Mgr.

Dolph L. Witzel

Mr. Witzel also joined Axelson in 1935 starting as a stock clerk and has worked as a pump repairman, salesman and store manager. He served 5 years in the U.S. Army. He was formerly District Manager of the Long Beach District.

New Manager of Stores For Bethlehem Supply

New Manager of Stores for Bethlehem is H. W. (Robbie) Robinson, following his appointment by Wendell Jones, Bethlehem Supply Vice-President

Mr. Robinson replaces M. A. (Max) Klepfer who has been assigned special sales work for the company.

With almost twenty years' experience in the oil field supply business to back his new administrative duties, Robinson has served the company in every one of Bethlehem Supply's California stores since he joined the company following his graduation from UCLA in 1934. He also organized and operated the company's sales office and warehouse in Seattle, Washington, during World War II.

He resides in La Habra Heights with his wife, Jean, and their two small sons, spending his spare time nursing a young avocado orchard.

Paul Kluthe has joined the Mid-Continent District Sales offices of the Kaiser Steel Corporation. He was formerly associated with Kaiser's Central District Sales staff in Oakland, California. His headquarters will be in Tulsa.

Mr. Kluthe comes to the Mid-Continent District with a thorough background in large diameter pipe sales. In addition to his Oakland sales experience, he recently completed a full training program at Kaiser's Fontana, California mill, and the Basalt-Kaiser large diameter pipe operation in Napa, California.

His wife and two children will join him in taking up residence in Tulsa.

Daniel F. Sullivan of Ventura, Continental Oil Company geologist, has been elevated to division geologist with headquarters at Bakersfield. He succeeds E. D. Sherman, resigned.

John Eastman Sails For Europe

Mr. H. John Eastman, president of the Eastman Oil Well Survey Company whose main offices are in Denver, sailed Friday, August 7, from New York for an extended business and pleasure trip to Europe.

Mr. and Mrs. H. John Eastman and Mrs. Phyllis Freeland on board the S.S. United States prior to their sailing for Europe on August 7th.

Accompanying him were Mrs. Eastman and Mrs. Phyllis M. Freeland, secretary-treasurer of the company.

The trio is making the voyage on the liner S.S. United States, docking first at London. They will also visit the company's German office at Hannover, after which they will tour Holland, Belgium, France, Switzerland, Italy, Austria and Yugoslavia, returning to the states the last of September.

J. Patrick Whaley, son of Sunray Oil Corporation President W. C. Whaley at Tulsa, is with Sunray's Los Angeles staff for the summer months. He plans to return in the near future to Pomona College to start his second year. His older brother, Robert, a medical student at McGill University in Montreal, has been spending the last several months on a bicycle tour of Europe.

R. A. Broomfield, Jr., consulting geologist and son of the former president of Barnsdall Oil Company, now Sunray Oil Corporation, has shifted his headquarter office from Artesia, N. M., to Bartlesville, Okla.

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The Texas Company

TEXACO

Lane-Wells Announces New Executive Appointments

In line with the tremendous growth in business volume of Lane-Wells Company, two important new executive appointments, effective October 1, 1953, were announced by Rodney S. Durkee, president.

Neale . . . Henderson

John J. Neale, formerly Lane-Wells Gulf Coast Division manager, has been made assistant to the president. A graduate of Texas A & M, he started work with Lane-Wells in 1936 as a loader. Then he was successively gun perforator operator, sub-district superintendent, division sales engineer, district superintendent, division sales manager, and Gulf Coast Division manager, directing the activities of that division and forty branches in that area. He will move from Houston to Los Angeles.

Joseph M. Henderson, formerly assistant Gulf Coast Division manager, was advanced to the post of Gulf Coast Division. Henderson is also an alumnus of Texas A & M and also joined Lane-Wells in 1936. He has served as loader, rigman and operator, sub-district and district superintendent, assistant to the Gulf Coast Division manager and assistant Gulf Coast Division manager.

Although far away from California, news from Drake Well Memorial Park at Titusville, Pa., is of interest. Thomas J. Garin of Oil City, former newspaperman, has been appointed curator of the park, succeeding Dr. Paul H. Giddens. The museum at Drake Park, on the site of the world's first well drilled for oil, contains relics and documents of historical importance. It is a repository for everything related with the birth of the petroleum industry.

The Standard Oil Company of California's Exploration Department has announced four changes in its supervisory and staff personnel complement.

The new appointees are E. C. Doell and Antonie Paap, both assigned to the staff of the chief geologist in San Francisco; H. C. Bemis, exploration superintendent for the Southern District, Los Angeles; and E. G. Dobrick, Jr., chief geophysicist, Oildale.

Doell, who joined Standard in 1933, was previously Southern District exploration superintendent and has also conducted geological studies in Venezuela for the company. He is a graduate of the University of California.

Paap, a native of The Netherlands, was educated abroad and joined an overseas subsidiary of Standard's in 1936. His previous assignment was district geological supervisor in Oildale.

Bemis, a University of California at Los Angeles graduate in geology, joined Standard in 1937. Prior to his new assignment he served as chief geophysicist for the department.

Dobrick was formerly with The California Company, Standard subsidiary, as division superintendent of its Eastern Exploration Division. A University of Minnesota alumnus, he has been with the Standard organization since 1938.

Appointment of C. Haines Finnell as manager of Union Oil Company's newly-formed Eastern Continental Division for marketing was announced today by Roy Linden, vice president in charge of sales. Mr. Finnell, formerly manager of the market research and development department, will be responsible for marketing Union's brand name products in Eastern Canada and the United States east of the Rocky Mountains not otherwise assigned. His headquarters will be in Los Angeles.

Earl Gilmore, long a leading member of the oil fraternity, has been vacationing in recent weeks at the Del Charro at La Jolla.

McNeill Opens Private Consulting Offices

James M. McNeill, well known mechanical and petroleum engineer, has just opened offices at 437 So. Hill, Los Angeles.

James M. McNeill

Mr. McNeill was recently associated with Tevis F. Morrow and prior to that was manager of drilling and production for the Wilshire Oil Company.

Mr. McNeill graduated from the University of Southern California in 1933 with a B. S. in petroleum engineering and did graduate work with Penn State College in mechanical engineering. His first connection with the oil business was in California when he joined the staff of Union Oil Company the latter part of 1933.

Two leading oilmen have returned to their respective offices in Los Angeles from extended vacations at Lake Tahoe. Back at work are Bob Lytle and Fred Keller, prexy of Oceanic Oil Company.

Elmer Bolton, retired former general superintendent of Ohio Oil Company's Los Angeles division, has been in England for the summer. During his stay there he is visiting his son Robert, who is supervising the building of a refinery in England for Standard of California.

Dr. Egloff Honored

Dr. Gustav Egloff, director of research for Universal Oil Products Company, has been elected an honorary fellow of the Royal Society of Edinburgh—one of four prominent persons not British subjects who have been so honored this year.

Dr. Egloff joins an imposing list of world-famous personages who are honorary fellows of the Royal Society, which was instituted by royal charter in 1783 for the promotion of science and literature.

Among present honorary fellows are the Duke of Edinburgh, husband of Queen Elizabeth II of Great Britain; the Duke of Windsor; Dr. Albert Einstein; Dr. Enrico Fermi, professor of nuclear physics at the University of Chicago and one of the group of scientists who perfected the atom bomb, and Dr. James Bryant Conant, former president of Harvard University and now U.S. high commissioner to West Germany.

The three other honorary fellows not subjects of Great Britain who were elected for 1953 are Prof. Otto Struve, department of astronomy, University of California; Prof. Carl Peter Henrik Dam, department of biochemistry, Polytechnic Institute, Copenhagen, and Prof. Karl Manne Georg Siegbahn, physicist of Stockholm.

Dr. Egloff, upon being informed of his admittance into the society, revealed that since 1938 he has been an honorary Scotsman "with all the rights and privileges thereto." Dr. Egloff said the honor was conferred upon him in Glasgow by the late Lord Cadman, then chairman of the board of the Anglo-Iranian Oil Company, Limited, who gave him the right also to design his own tartan.

Appointment of J. B. Taylor, former accountant and assistant auditor of Macmillan Petroleum Corporation, to the position of auditor has been announced by S. M. Batterson, executive vice president. Taylor joined Macmillan nine years ago as accountant. Four years ago he was advanced to assistant auditor and following the recent death of W. S. Fulmer, former auditor, was promoted to the present post in line with the company's policy of advancing deserving employees.

CHECKING PROGRESS on latest Pacific Western venture in Belgian Anticline at McKittrick are, from left, T. T. Nudson, Pacific Western Drilling Supervisor; Gordon Wilmovsky, Bethlehem Supply store manager at Taft and Latham Conner, Tool Pusher, Clyde Hall Drilling Co.

Oldest of the veteran Alaska Sourdoughs at the recent convention in Long Beach was Alexander (Sandy) Smith of San Bernardino who spent 70 years in the Northwest Territory. "I discovered the oil field at Point Barrow which is now the Naval oil reserve," he related. "It took me seven years to get anyone to believe it was there. I got $92,000 out of that."

Henry Hosking, 90, who was with the Kern County Land Company almost 70 years ago, died at his Bakersfield residence. Born in Cornwall, England, in 1863, Mr. Hoskings emigrated to the United States in 1885 and came directly to Kern County where he joined the land organization. At the turn of the century he began farming in his individual right.

Tyler F. (Bud) Woodward, Southern California Petroleum Corporation prexy, is back from another trip to Egypt where he was in attendance at a business meeting in Cairo. SCPC as operator for International Egyptian Oil Company, on vast concessions in the land of the Phaorohs, has set in motion important development work.

Following a year of spare time work, O. C. (Cliff) Groff, Shell Oil Company pipeline division engineer at Bakersfield, has built an entire steam launch. Hull, boiler, engine and other parts were all put together in his garage workshop. Cliff christened the boat "African Queen II.

Conservation Committee Announces Personnel of Subcommittees

The Conservation Committee of California Oil Producers held the annual election of its two standing subcommittees in its meeting of July 29, 1953.

Mr. J. L. Stephens, representative from District No. 9, was elected chairman of the Administrative Committee. Mr. Stephens is Assistant to the Executive Vice President of Chanslor-Canfield Midway Oil Company. The Administrative Committee is responsible for the financial and administrative affairs of the organization. Other members of this committee are T. W. Bell, Chester F. Dolley, W. L. Hobro, and T. H. Sherman.

An Engineering Board was also elected. Mr. F. T. Lloyd, representative from District No. 30, and Chief Valuation Engineer for Richfield Oil Corporation, was elected chairman. The Engineering Board makes studies of oil fields to determine the proper conservation measures in the establishment of maximum efficient rates of production of crude oil. Other members elected were George August, R. C. Gentry, H. K. Grant, James G. Heid, Joseph Jensen, D. G. Kingman, Holmes Miller, W. M. Moody, and J. O. Richardson.

The new standing subcommittees will serve for one year.

H. A. (Andy) Eklund, for the last eight years British American Oil Producing Company vice president and manager of all California operations, has entered the business of producing oil in his own right and has opened offices in the Security Title Insurance Building, Los Angeles. Eklund, widely known in petroleum circles, recently returned from a jaunt through the country's oil regions. He holds particular property interests in the Williston Basin, Mississippi, Alabama and south Louisiana, in addition to his oil belongings in California. Andy was with BA for 15 years and before taking over on the Pacific Coast was manager of the Houston division, and earlier land manager at the Tulsa branch.

West's Largest Christmas Tree Tested

The largest Christmas tree ever assembled in California was recently delivered to Shell Oil Company by Wilson Oil Tool Corp., Ventura, Calif. For use in the D-8 zone in Shell's Ventura Avenue Field, this assembly has been designed by Shell Oil, Ventura Division, for a 10,000 p.s.i. working pressure. New test facilities at Wilson have run up an actual test pressure of 15,000 p.s.i. on this unit, which meets API Series 2900 specifications.

In order to meet all anticipated pressures in the D-8 zone and insure leak-proof construction, no screw threads are employed; all joints between components are flanged, bolted tight and sealed between with A.P.I. steel rings. As an added safety precaution, tees, elbows and crosses have been specially machined from forged 4140 steel blocks.

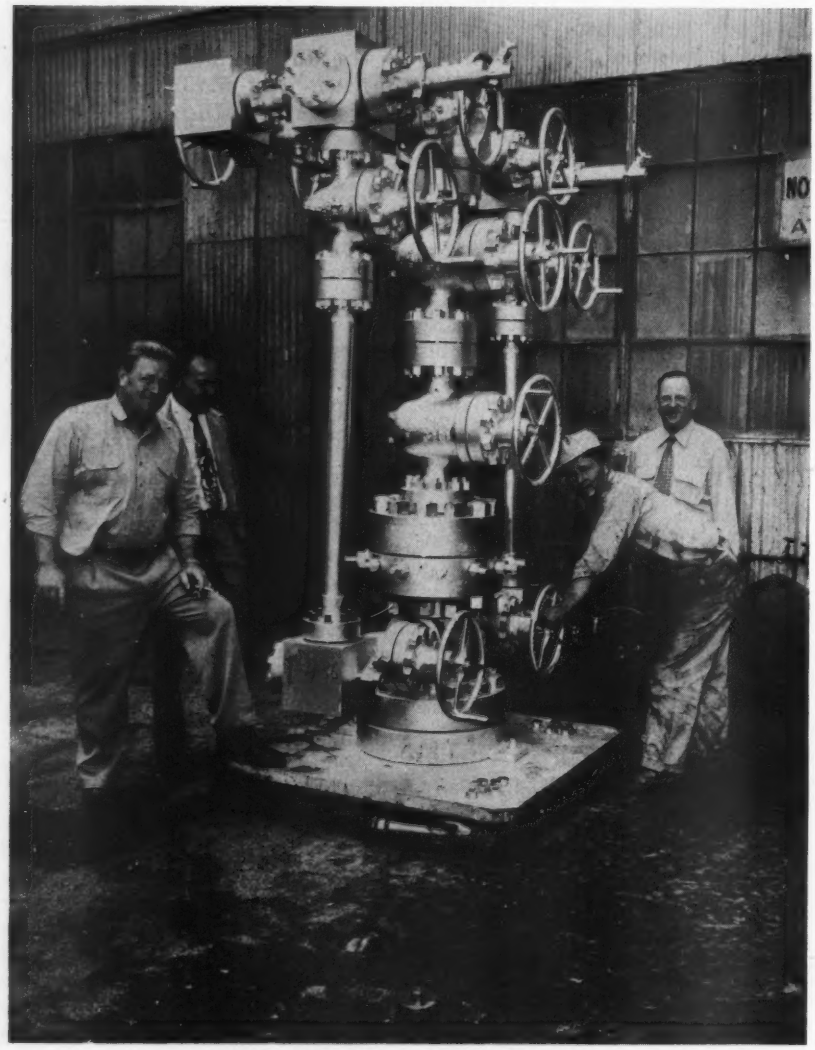
The set-up includes complete stand-by facilities each side of the tree center, components being duplicated for alternate use in order that flow beans or valves may be replaced without killing the well.

Starting at the base and travelling upward is a Cameron Type F, series 2900 tubing head equipped with a bug for supporting the tubing string. Note the use of the "needles" around the top flange which screw in and engage the tubing, preventing possible ejection of the string from the hole under high pressure. An adapter flange connects the 3½" master gate valve to the 10" series 2900 tubing head top flange. Next is a 3½" swabbing valve, series 2900. This leads into a forged steel cross immediately below the tree top flange. Extending outwards each side of the tree center are 2" series 2900 wing valves which end in 4140 forged steel crosses. Each cross is drilled five ways providing for a flow bean, positive choke, inlet, clean-out side outlet and entrance to secondary manifold.

Outlets from the crosses lead into another 9"x9"x11" forged steel elbow on each arm, back through a pair of 2" series 2900 flanged gate valves to the flow line outlet.

From the main crosses on each arm extension feeding downward is a pair of 2" series 2900 gate valves. The spools connecting these to the tees below are constructed of 3" O.D. S.A.E. 4140 cold drawn seamless steel tubing of 3/4" wall thickness attached to welding neck flanges. Forged steel tees are drilled for a 1½" I.D. flow.

The 2" series 2900 gate valves feeding back to the tubing head complete the assembly. These side arms can be utilized to equalize pressure between casing and tubing.



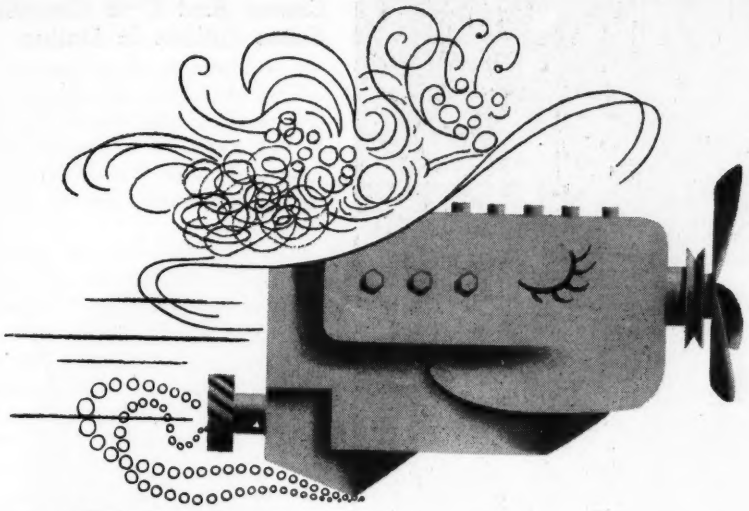
GETTING READY FOR 15,000 PSI TEST

W. J. Wagner (left) mechanical engineer for Shell, with Donald F. Cook, Chief Engineer, Wilson Oil Tool Corp., ready the west's largest Christmas Tree Assembly for final testing. Donald Powell and Ted Jenkins, right, head Christmas tree mechanic and general manager, respectfully, of Wilson Oil Tool Corp., Ventura.

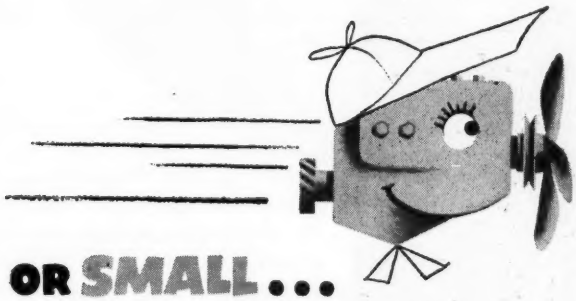
Nick Van Wingen, well known Pacific Coast petroleum engineer, and vice president of Petroleum Technologists, Inc., Montebello, announces his resignation from that position to engage in private practice as a consultant, with offices at 903 Fair Oaks, South Pasadena. He will, however, retain his place on the P. T. board of directors.

"Exploration and Discovery in Relation to the Consumer" will be the topic of an address by L. F. McCollum, Continental Oil Company president, at the annual membership meeting of the Independent Natural Gas Association at Houston, Tex., September 28-29.

Delbert E. Pyles, popular oil engineer, whose business has called him from Lynwood to Bakersfield, has set up a new home in the southern part of the Kern County oil city.



IN **BIG** CARS



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as it PROTECTS...The corrosion preventive in Tydol HD Motor Oil neutralizes acids produced by combustion. Acids that otherwise cause pitting, destructive wear. Thus Tydol HD gives engines *extra* life.

as it LUBRICATES! Smooth, easy-flowing Tydol HD Motor Oil achieves *instant* lubrication. Provides *extra* safeguards against stop-and-start wear in *any* engine...big or small.

EXTRA PROTECTION AT NO EXTRA COST

TIDE WATER ASSOCIATED OIL COMPANY (Western Division)

New Giant-Size Hole Opener Added To H. C. Smith Line

The 36-inch 3-point hole opener, shown above, is one of the largest ever built. It is a new addition to the line of 3-point and 6-point hole openers manufactured by the H. C. Smith Oil Tool Co. of Compton, California. H. C. Smith, president of the company, holds up one of the company's regular 3 7/8" 4-cutter bits to emphasize the dimensions of the new giant. Like all other hole openers in the H. C. Smith line, the 36-inch hole opener is supplied with either a bull-nose pilot bit, as shown in the photo, or with a rock bit pilot.

Cullen & Son Appointed By BJ

B. A. Hilliard, General Sales Manager, Byron Jackson Co., Oil Tool Division, recently announced the appointment of T. J. Cullen & Son, 2424 Mohawk Road, Bakersfield, California, Agent to represent BJ Oil Tools and PB Rubber Products, Sales and Service in the San Joaquin Valley.

Previously T. J. Cullen & Son represented only the PB Division Products for Byron Jackson Co.

Tommy Cullen and Tom, Jr., are widely acquainted in northern California oil fields having been engaged as manufacturer's agents for many years in that area. It is felt that with their broad knowledge of oil field equipment, the Cullens will lend considerable assistance to the many good customers of Byron Jackson Co., and the Supply Companies Distributing Byron Jackson Oil Tools in the San Joaquin Valley.

This appointment was effective August 1, 1953.

Emsco And D+B Consolidate Sales Offices In Dallas

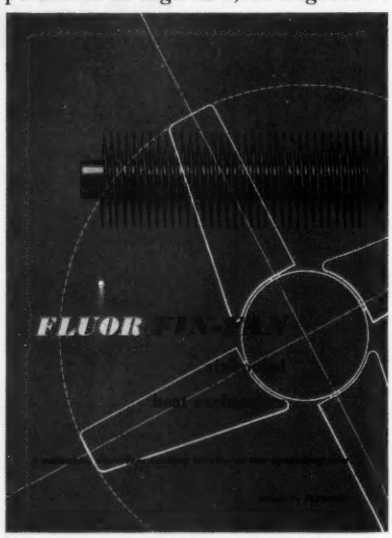
Consolidation of the general sales offices of Emsco Manufacturing Company and its D+B Division in Dallas, Texas, is announced by William C. Kinder, Vice President, recently appointed General Manager, Sales.

The change will not only bring the direction of the sale of D+B production equipment and Emsco machinery products under one head, but also under one roof. The Dallas offices are at Suite 406, Continental Building.

Dallas was selected because of its central location to all oil field activities. Staff and personnel shifts will be made to implement the reorganization of the sales group.

New Literature—Air Cooled Heat Exchangers

A 12-page, illustrated bulletin on air-cooled heat exchangers for a wide variety of industrial cooling and condensing applications has been issued by The Fluor Corporation, 2500 So. Atlantic Blvd., Los Angeles 22, California. Known as Fin-Fan Heat Exchangers, the units described are of the forced draft type and are designed to cool liquids or gases at pressures up to 5,000 PSI and temperatures as high as 1,500 degrees F.



These air-cooled units are being installed to replace or augment water-cooled heat exchangers in many plants faced with the necessity of dissipating great heat loads from everyday processes. Copies will be mailed free on request.

ON THE JOB ON TIME!

PERMANENTE OIL WELL CEMENTS

Type C Construction	For wells down to 5,000 feet
Type S Modified	For wells down to 8,000 feet
Type D Hi-Temp	For wells over 8,000 feet
Permatemp	For abnormally high bottom hole temperatures

PERMANENTE OIL WELL CEMENTS are dependable under all conditions. Thickening times and ultimate strength are always specified, and in each of the four oil well types—depth, pressure and bottom hole temperatures are the governing factors in delivery specifications. Where abnormal drill hole conditions are encountered, a Stanolind Pressure and Thickening Analyzer is available in the Permanente laboratories to accurately predict the performance of oil well cement at practically any depth to which wells are now drilled—in temperatures up to 500° F., and with pressures up to 30,000 psi.
Permanente's analyzer is the only one on the West Coast and is made available to the Company's oil well cement customers upon request.

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ON THE JOB ON TIME

PERMANENTE, SANTA CLARA, YOSEMITE AND KAISER BRANDS OF PORTLAND CEMENT AND PERMANENTE LIME PRODUCTS

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

Montana

Sun Oil Co. and Phillips Petroleum have announced completion of the No. 1 Dynneson, 44 miles southeast of the East Poplar field, an important wildcat which found production in the Red River. After acid treatment of perforations at the interval 12,585-605 feet, the well flowed 745 barrels of 48 gravity oil in a 24-hour test. The well had been drilled to 12,671 feet and plugged back to 12,605. The well, in c sw ne 32-24n-58e, is in the central portion of the Williston Basin and lies between the Beaver Lodge-Tioga area of North Dakota and the Poplar fields of Montana.

Carrol J. Kirk has found production from the Dakota at the discovery, the No. 1 Stow, on Golden Dome in Carbon County. On a 20-hour test through 3/8 inch choke, the well flowed 380 barrels of 54 gravity oil. The discovery is east of the Dry Creek field and is in nw nw ne 14-7s-22e.

Eight miles west of the Little Beaver field, Stanolind Oil and Gas has announced plans to drill the No. 1 NPRR, which will be a test of the Cambrian, expected at 9700 feet. Location is in c sw se 21-4n-60e.

In Musselshell County, Chicago Corp. and Republic Natural Gas have brought in the No. 1 NPRR, sw se ne 17-11n-31e. Production was found in the Morrison at the rate of two barrels an hour on drill stem test of the interval 2796-2806 feet. The well was drilled into the Charles at a total depth of 5208 feet and was plugged back.

Johnston Stainless Welding Rods

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North Dakota

Stanolind Oil and Gas was coring around 9125 feet at the No. 1 Tribal in McKenzie County after finding shows in cores at 9073-9123 and 9010-72 feet. The well is an Ordovician test in c sw se 21-152n-94w.

Williston Oil and Gas has announced plans for a test of the Mississippian in Mercer County. The well will be the No. 1 Boeckel et al, c sw sw 10-144n-88w, and is scheduled to go to 9000 feet.

Amerada Petroleum will drill the No. 1 Logan in the Fryburg area of Billings County, 50 miles south of the Beaver Lodge field. The test will be three fourths of a mile northwest of the No. 1 May, a discovery in the upper Madison. The No. 1 Logan will be drilled in c se sw 4-139n-100w.

An extension a mile northeast of the Tioga field, the No. 3 Hanson. with M. B. Rudman and New Concord Development as operators, recovered 1500 feet of oil on a drill stem test of the Madison

South Dakota

Kerr-McGee Oil Industries was drilling below 5300 feet at the No. 1 Brammer, c se nw 20-13n-20e, in Ziebach County after finding water in a drill stem test of the Madison.

Nebraska

Drill stem test was being run at the No. 1 Johnson in Kimball County after some shows were found on cores of the D sand. The operators are Western Central Petroleum, Mitchell Oil Co. and Derby Oil Co., and the wildcat is in nw ne nw 35-16n-54w, six miles north of Dix, Nebr.

Wyoming

An oil test near the city of Casper, which had been watched with interest, has been plugged and abandoned after finding water in the Tensleep. The well, the No. 1 Govt.--Brannan, was drilled by Amerada Petroleum Corp. to a depth of 6980 feet. No substantial shows were found. The test was six miles southeast of Casper, in sw nw ne 29-33n-78w.

The Houston Oil test on the Burke ranch, also in Natrona County, flowed as high as 100 barrels of oil per day from the Dakota on early tests. The well, Burke Ranch Unit No. 2, was shut in to erect tanks after encountering the Dakota production. The well had been drilled to 8367 feet in the Tensleep sand and plugged back to produce from the Dakota. Top of the Dakota was logged at 6653. Location is nw nw nw 18-37n-78w.

Sohio Petroleum Co. was last reported coring ahead at the No. 1 Unit, a wildcat southeast of the Sand Draw field in Fremont County. A core from the interval 8677-98 feet showed saturation, and staining was found in a core from the interval 8698-8739 feet. Water and some oil and water cut mud were recovered from 8680-8739 on drill stem test. The test is in se nw se 36-32n-95w.

Stanolind Oil and Gas Co. was coring below 6631 feet at the No. 1 Dickie Unit in Hot Springs County. This is a Madison test, and the operator has recovered 90 feet of oil and 120 feet of oil and gas cut mud from the Phosphoria on a drill stem test at 6571-93 feet. The Phosphoria was topped at 6562 feet.

Weston County continues to be one of the most active drilling areas in the state. York and Johnson's No. 1 Kirby flowed 70 barrels of oil per hour on initial tests. The well is an extension from previous production in the South Clareton area.

A heavy drilling program is under way in the county, much of it in field development, but some extensions or wildcats also have been started or scheduled, and extensive land plays reported.

Earl Mallette, who struck pay at shallow depths in Dugout Creek in Johnson County, has undertaken a comprehensive drilling program to develop the area.

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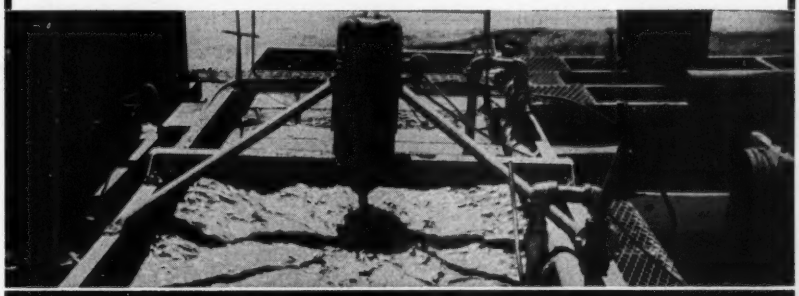


BROWN MUD COMPANY

VENTURA Miller 3-8168 | LOS ANGELES WEbster 35618 | BAKERSFIELD 2-6410

Colorado

An extension of the Little Beaver field in Washington County is a producer from the J sand. The No. 2 Flessner, se se sw 19-1s-56w, a Lion Oil stepout, showed recovery of 750 feet of oil on a 15-minute drill stem test of the interval 5403-19 feet.

Oil has been recovered from the Morrison sand two miles northwest of previous production in the Maudlin Gulch field of Moffat County. Anderson-Prichard Oil Co. planned to go on down to the Entrada before completing the No. 1 Govt. A, se se ne 17-4n-95w. Recovery from the Morrison was 3800 feet of oil in a test of the interval 6202-34 feet. The Entrada was expected at 6400 feet.

In Jefferson County, McElroy Ranch has disclosed plans to drill a 10,000 foot test to the Dakota six miles southwest of Littleton. Specific location was not immediately announced.

The California Company has completed one well and is drilling a second in the same general area in Weld County. The operator brought in the No. 1 Baiamonte, se ne nw 6-7n-66w for an initial rating of 304 barrels of oil per day from the Lyons at total depth 8940 feet. The operator was drilling below 870 feet in the No. 1 UPRR, ne sw sw 31-8n-66w.

Utah

Gulf Oil was drilling below 4425 feet at a wildcat in the Brennan Bottom area, c ne se 13-7s-20e after finding shows of oil in a test of the interval 4079-4284 feet. Some gas also has been recovered. The test will be drilled to 8000 feet.

Phillips Petroleum Co. was coring below 7240 feet at its No. 1 Unit, se nw 15-17s-8e, in the Huntington area.

Western Canada

Williston Oil and Gas Co. of Casper, Wyo., has announced location of a new well in the Forget area of southeastern Saskatchewan. Williston Oil and Gas Bobjo 1-19, a Mississippian test, in LSD 1, 19-9n-6w2. The new well is approximately three miles northeast of the light gravity crude discovery Tide Water Forget well. Williston Oil and Gas is joint-

ly owned by Federated Petroleums Ltd. and Frobisher Ltd.

Fargo Oils has entered into an agreement with Charter Oils, which holds the land, for a deep test on a 100,000-acre block in the Dawson Creek area of northeastern British Columbia. Extensive exploration also is provided for in the agreement.

Drilling activity in Saskatchewan continues on a substantial scale. A recent report showed over 30 wells drilling in the province, with 36 geophysical crews also active.

Texaco Exploration Co. was expected to complete its Ponoka Al as a gas producer after failing to find oil in commercial quantity. Gas flow was at the rate of 6,000,000 cubic feet per day. The well is in the Ponoka area of central Alberta.

Pipelines

Dedication of the Platte Pipe Line, which extends from northwestern Wyoming to Wood River, Ill., was an event of early August. L. F. McCollum, president of Continental Oil Co., was the principal speaker at the ceremonies held at the district offices in Casper. Millard K. Neptune of Kansas City, president of the company, was chairman of the program.

The crude oil line was built as a joint effort of five major companies —Sinclair Oil Corp., Pure Oil Co., Continental Oil Co., Ohio Oil Co., and British-American Oil Co.

Neptune announced plans to construct two additional pumping stations to expand capacity of the line.

Two days after the Platte Pipe Line was dedicated, another dedication ceremony was held at Salt Lake City for the Pioneer Pipe Line, a refined products carrier extending from Sinclair, Wyo., to Salt Lake City. This line is owned jointly by Continental Oil Co. and Sinclair Pipe Line Co.

New Book on Origin of California Landscape

The story behind California's landscape is the subject of a new book issued by the California Division of Mines, in response to the countless questions and letters from an interested public. Most persons who have traveled in and about California—among her peaks, within her valleys, down her rivers, or along her shores—have paused to marvel at her natural scenic beauty. Until now, no book has been written which tells the story of the evolution of all of this, California's landscape. There are technical papers and reports about many areas, but they are in the language of the scientist—much of which is like a foreign tongue to the layman—and they contain a great amount of information of interest only to the specialist.

Altogether, the 240-page book contains over 150 illustrations, many of them reproduced the full size of the 8x10 inch page. The entire volume, bound in attractive green cloth, is priced at $2.50. Copies are available at State Division of Mines offices, in San Francisco in the Ferry Building, Los Angeles in the State Building, 217 W. First Street, in Sacramento in State Office Building No. 1, and in Redding at the Natural Resources Building. California residents please add 3% sales tax.

Shell To Build Platforming Unit

Plans to construct a $1,700,000 platforming unit at the Shell Oil Company refinery at Martinez were announced recently by refinery manager John Tench.

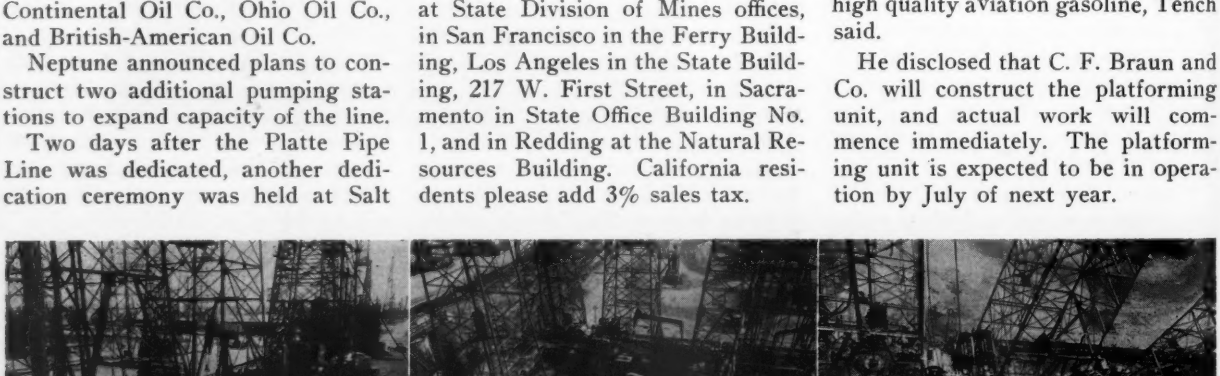
The platforming unit will be designed to take low octane gasoline stocks and, through a catalytic reforming process using platinum as the catalyst, boost the quality of the fuel as much as twenty-five octane numbers.

The Martinez installation which will have a capacity of 4,500 barrels a day will be the third such unit to be installed by Shell. The other units are located at Shell's Houston, Texas, and Wood River, Illinois, refineries.

Developed by Universal Oil Products of Des Plaines, Illinois, the platforming process has been widely adopted throughout the petroleum industry in the past several years. The process involves mixing hydrogen with the gasoline feed stock, vaporizing the mixture and then passing it over the catalyst. The octane rating is increased through the dehydrogenation and isomerization of the petroleum molecules.

It will be possible to use the high octane product from the Martinez platforming unit as a top-grade automobile fuel or as a base stock for high quality aviation gasoline, Tench said.

He disclosed that C. F. Braun and Co. will construct the platforming unit, and actual work will commence immediately. The platforming unit is expected to be in operation by July of next year.



A TIGHT SPOT FOR THE U. S. DRILLING CO.

A fancy job of juggling was done by the U. S. Drilling Co. to move on to this 7800 foot whipstock redrill job for the Rothschild Oil Company. The working area in this Santa Fe Springs, California, location was so limited that only one crane could be used. The problem was further complicated by the fact that only one truck at a time could be backed in to unload its National 50 rig.

Field Development

Saugus Area In Line For Testing

Country northwest of the town of Saugus has been singled out for additional test drilling under the banner of The Texas Company. Tagged Newhall No. A-3, the well will hunt for oil on Sec. 15-4n-16w. At Weldon Canyon, the company is about to spud its Eadie No. 1 wildcat on Sec. 23-3n-16w. One mile east of the East Los Angeles field, Texaco's K. Shimizu No. 1 test on Sec. 15-2s-12w at northeast Bandini has come to a permanent halt at 9026 ft. Electric log, dipmeter and sidewall sampler were run as a final check.

Shell Oil Company has abandoned its Bartholomae No. 46 wildcat on Sec. 11-2s-9w in the Puente Hills at 1564 ft. Nothing of petroleum interest was reported.

In the Leffingwell sector, the Hathaway Company's Lochmiller No. 1 venture on Sec. 11-3s-11w is still drilling steadily ahead at 2160 ft. Hathaway's Woodward No. 2, a new producer on the section, is presently putting out 200 barrels of 38 gravity oil a day from 8650 ft. Signal Oil & Gas Company's new Signal-Stern No. 1 well on the section is producing 65 barrels of 34.2 gravity oil daily from 8958 ft., with rather a large cut.

Richfield Oil Corporation has reached 6000 ft. or thereabouts with Rynne-Fisher No. 34 on Sec. 35-5n-17w in the Castaic Hills. On the subject of Richfield, the company's wide-flung operations are accentuated by the staking of location for a Tensleep test of the Frost Ridge Anticline six miles west of South Oregon Basin, Wyo. It is the first test of the anticline and it is on a farmout from Seaboard Oil of Delaware.

Preparative work has commenced on General Exploration Company's CCMO No. 1 wildcat on Sec. 17-2s-12w in the East Los Angeles area. The contract to put the well down has been assigned to Thomas P. Pike Drilling Company.

At press time, The Ohio Oil Company's Well KCL A-72-4, in the Paloma field, is drilling ahead after having broken the world's deep hole record of 20,521 feet on August 20.

This world's deep record event will be carried in a special feature story, fully illustrated in California Oil World's September 30 issue.

Current Wilmington field operations of Aeco Corporation are represented by Sandison No. 2 on Sec. 5-5s-13w near the intersection of Quay and "C" streets, drilling below 2200 ft., and location for Lupie No. 5 on Sec. 33-4s-13w a short distance from the corner of Robidoux and Sanford streets. Hancock Oil Company is meeting with success in a program of three drilling jobs on its Craig "A" lease. The first well, Harbor No. A-41, is putting out 200 barrels of 18 gravity oil a day from 2239 to 3205 ft.

Rosecrans Try Fishing

Near where San Pedro street and Compton boulevard cross one another, Bell Petroleum Company's Anderson No. 1 test on Sec. 20-3s-13w in the Rosecrans district is working on correction of mechanical trouble. Present depth of the well is 4851 ft.

L. B. O. D. Oil Company's Well No. J-81 at Long Beach being put down by Camay Drilling Co. Left to right: Herb C. Lankford, lead tong; Francis Munoz, racker; A. E. Gibson, driller. (Back row) Jack Wright, derrick; Alvin Kennedy, cathead.

Having poked into a lively source of new oil with its Guarantee No. 4 wildcat on Sec. 33-3s-9w, Superior Oil Company is now drilling below 1000 ft., with its Guarantee No. 5 on the section in the Atwood-Richfield area of Orange County. The No. 4 was completed at a total depth of 4982 ft. and is tapping the Lower Kraemer zone. Drilling & Exploration Company has location staked for its Drilexco-State-Apalategui No. 1, and is drilling at 3946 ft. with Drilexco-State Francis No. 1 on Sec. 32-3s-9w. The company's Drilexco-State Stern No. 2 on the section has been plugged back from 5045 ft. and is producing 240 b/d.

In Orange County's Puente Hills, Tide Water Associated's Bryant Ranch on Sec. 21-3s-8w is probing ahead in the shallower formations under the supervision of Camay Drilling Company. The company's McNally No. 1-36 on Sec. 22-3s-11w near La Mirada station is drilling on down below 5650 ft., with Rocky Mountain Drilling Company in charge. Tide Water shares interest in the play with Ted Sterling and Paul Trousdale. The drill site is not more than 1500 ft. from General Petroleum's Librown wildcat, drilled some years ago on the southeast quarter of the southeast quarter of Sec. 21. This earlier try went all the way to 12,600 ft. and in so doing picked up notable showings of oil and gas. In fact the well produced oil in quantity for a time. Further work on the project apparently had something to do with water entry and operations thereupon were suspended.

Sunny Hills Test Due

Richfield Oil Corporation is expected to shortly set in motion its Edwards No. 1 wildcat well on Sec. 15-3s-10w in the Sunny Hills Ranch area. Location is no great distance from the city of Fullerton.

At West Newport, Pacific Supply Cooperative's Mills No. 1 on Sec. 13-6s-11w is ready to be plugged at 3625 ft. and redrilled to around 4500 ft. The well originally was carried to a total bottom of 7313 ft. and then plugged back to 4600 ft. for the final touches. On test in July of last year, the well evidently pumped all water. The new work is in the hands of Petrie Drilling Company. Allen Hunter is engineer. On Sec. 12-6s-11w, Red Star Oil Company has finaled its Newland No. 2 at 3410 ft. for 85 barrels of 16.6 gravity crude oil daily. Atlantic Oil Company has been let contract to put down Harold C. Ramser's Ramco No. 3 well on the same section.

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Modesto Wildcat All Set To Drill

Five miles west of the town of Modesto in Stanislaus County, Standard of California is about to spud its Young Comm. No. 1 wildcat venture on Sec. 34-3s-8e. Location is on property leased from Freeland and Cy Young. The latter is the father of the youth of the same name who won the last Olympic Games javelin contest. The site is in a sector practically unfamiliar to the drill. As a matter of fact state records indicated that in all of Stanislaus County there have been only two wildcat wells put down during the last five years or so. One of these tests of yesteryear is no more than five miles northwest of the Standard venture and was undertaken by Tide Water Associated Oil Company on Sec. 7-3s-8e. Named Philbrich No. 64-7, this wildcat went the way of all dusters at a depth of 5135 feet in the spring of 1949.

Standard as unit operator at the Elk Hills Naval petroleum reserve, is ready to start the drill in its interesting deep test on Sec. 29-30s-23e and known as UONPR No. 515-29R. The project may be aimed for the Carneros oil sand zone which was opened up in January of 1952 with the company's No. X-55 on Sec. 30-30s-23e. This well was completed from 9309 to 9350 ft .in the Carneros formation and except for a series of production tests has been shut in since its initial performance.

Kern County Land Company at this writing was testing for production with its KCY No. 67A-12 on Sec. 12-31s-25e at South Coles Levee. The well on a Halliburton formation test of the interval of 6695-6716 ft. showed gas in quantity. The project is a followup to the company's KCY No. 67-12, which blew out last New Years day at a high rate during interrogation of the interval of 6700-6710 ft. Damage inflicted on this original well could not be repaired. Kern County Land, by the way, reported oil and gas royalties for the first

six months of 1953 of $9,876,052, compared with $8,739,920 in the similar period last year. June quarter royalties were $2,932,943 against $2,522,041 a year ago.

Shale Hills Test Dry

As Shale Hills, Signal Oil & Gas Company's Signal-USL No. 35 wildcat venture on Sec. 34-26s-18e has been written off at a dry 920 ft.

Standard of California has moved a short distance east of Nozu sand production and is ready to probe deep with an extension test at Mountain View. Ranton No. 4 on Sec. 24-30s-28e, a producer in the earlier days at Mountain View, will be deepened. Milton Barratt and E. W. Bysshe, Jr., are ready to resume operations at 2555 ft. with their KCL No. 62-22 wildcat on Sec. 22-30s-28e. On the transportation front, J. C. Lackey Construction Company is working on installation of 77,000 ft. of 6-in. high pressure gas pipeline in the Mountain View-Arvin-Lamont sector. The line when completed will link the Mountain View-Arvin-Lamont system to the main transmission arrangement and provide a greater supply of natural gas for Southern California.

One mile north of Temblor production, Esendee Company is about to set in motion drilling of its Esendee Westates No. 1 wildcat on Sec. 25-29s-20e.

Superior Oil Company appears to have poked into a new zone with its Cymric Unit No. 1 wildcat on Sec. 22-29s-21e in the Cymric area. The well started off flowing at the rate of 2½ barrels of oil an hour from the interval of 7305-7325 ft. The well was carried to a total bottom of 12,022 ft. and subsequently plugged back to 7430 ft. Superior on the way down with the well about six months ago stopped to place on trial another interval around 6500 ft. Recovery was made up of crude oil in quantity. Both intervals are new to Cymric from a production standpoint. Superior's most recent acquisition of land in Kern County was 160 acres from DeWitt G. Deming on Sec. 6-26s-21e on the northeast fringe of the Lost Hills field.

On the subject of Lost Hills, Tide Water Associated Oil Company has abandoned its Lindsay Hills No. 21A-21 on Sec. 21-27s-21e. The well went to a depth approximating 4000 ft.

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Rancho Test Spudded

Richfield Oil has spudded and is drilling several hundred ft. below topsoil with its San Emidio No. E-2 on Sec. 6-10n-21w in the Rancho area. Location is a half-mile north of the company's San Emidio No. E-1, given up last July at 11,600 ft.

Dumm Brothers Petroleum Corporation's Shearer No. 1 on Sec. 23-29s-27e at the east border of the Fruitvale field is drilling near objective depth. In the event success in the Santa Margarita sand attends this well, a new sector probably will be open to development.

The next drilling job for the Alferitz Anticline area will be Carlton Beal & Associates' Kalloch No. 56-11 on Sec. 11-25s-18e or some 2000 ft. northeast of production.

Macson Oil Company of Beverly Hills abandoned its Twissleman Comm. No. 111 on Sec. 16-27s-18e at West Shale Hills at 1895 ft. and is now busy with its CCMO No. 1 wildcat on Sec. 28-29s-21e at West Cymric.

On the Layman lease at McDonald Anticline, Ferguson & Bosworth have started the drill in No. 8-3 test on Sec. 18-28s-20e. The project is aimed for the "101" sand looked for in the Devilwater silt section around 1100 ft. Location is slightly less than one-quarter of a mile southeast of the well put down in combination by Honolulu and Wilshire to the sand and then abandoned. The well for a time put out some oil.

On the Hacienda Rancho, two or three miles southwest of the Trico gas field, Tide Water Associated Oil Company is preparing to drill its California Pacific Title Insurance Co. No. 1-35 wildcat on Sec. 35-24s-22e, Kings County. In the Pyramid Hills area, Franco-Western Oil Company's Norris-Orchard No. 42A wildcat on Sec. 33-24s-18e was above critical depth at last reports.

Black Canyon Test

San Benito County's Black Canyon sector is the scene of new wildcatting undertaken by Standard Oil's Wright-USL No. 4-35 on Sec. 35-18s-9e. In the Vallecitos area, the Donald Frankel, Operator, Lewis-USL No. 1 test is digging below 800 ft. At Griswold Canyon, Strata Oil Company's Strata No. 1 explorer is

idle for a time at 316 ft. The rig is on Sec. 19-16s-11e.

Richfield from all signs is ready to embark upon a wildcat well on its expansive acreage south of Merced and north of the Chowchilla gas field. The project probably will drill on Sec. 34-7s-14e or about 14 miles north of wells at Chowchilla. The test will mark the beginning of an interesting drilling program on the company lease block in Merced and Madera Counties. During the summer Richfield has not been idle in the area, having sunk at least four core holes. Shell also has a wide spread of ground assembled in the area and not many months ago drilled on Sec. 10-10s-13e without chalking up commercial success.

At Moffatt in Madera County, Trico Oil & Gas Company's Howard No. 1 wildcat test on Sec. 36-11s-14e was last reported digging at 3120 ft.

In Fresno County's San Joaquin area, John B. Quinn's Schramm No. 1 exploratory well is continuing to drill ahead at 1130 ft. Surface pipe, incidentally, was set at 525 ft. in the well, on Sec. 15-15s-16e. A new wildcat is scheduled for the area by Ladenburg-Thalmann Company of New York, with Jack Herley, veteran oilman, handling field operations. The well, known as Clover No. 1, will drill on Sec. 12-16s-16e, two miles southeast of the field. Development in the San Joaquin area received a setback when Le-Bow-McNee Oil Company's Brackney No. 1 test on Sec. 30-15s-17e quit at 7265 ft.

The Raisin City area has registered a new duster with the Douglas H. Graham, Operator Morris on No. 1 on Sec. 19-15s-18e. Notable showings were absent to bottom at 5360 ft.

Terra Bella Failure

Having failed to pick up showings of merit to 794 ft., the C. L. Reese, Operator, Mavilo No. 1 wildcat on Sec. 23-22s-27e near Terra Bella in Tulare County quit at 794 ft. However, the project was converted to a water well. At Alpaugh, Sidney M. Biddell's No. 1 test on Sec. 32-23s-24e evidently is still idle at 450 ft. San Joaquin Associates have resumed drilling with Bowen No. 1 on wildcat land on Sec. 35-24s-28e in the vicinity of Fountain Springs and at last reports was around 800 ft. or thereabouts.

Northwest of San Miguel, Seaboard Oil Company's Humble-Freeman No. 72-17 wildcat on Sec. 17-23s-13e is not many hundred ft. below grass roots. In the Estrella area, Havenstrite Oil Company's Havenstrite-Cleary No. 1 test well on Sec. 8-25s-14e is digging below 1250 ft.

Surf Area Test Holds Interest

Of considerable interest is the Murphy Brothers, Ltd., Sinclair No. 74-6 wildcat well under way on Sec. 6-7n-35w in the Surf area of Santa Barbara County. The drill site is about six miles northeast of Union Oil Company's flourishing Jesus Maria field and on a lease obtained from Miss Virginia Sinclair. Holdings of Miss Sinclair in the area embrace some 9300 acres in Twp. 7n and Range 34w, which she acquired from Jimmy Rogers, son of the immortal Will Rogers.

In the West Casmalia Hills, Golden Bear Oil Company, headed by J. M. Feldman, is ready to set in motion the drill in its Dolcini No. 1 wildcat on Sec. 32-10n-35w. Contractor is Tine Gaiser. H. M. Oliver is geologist and engineer.

At Los Alamos, R. C. Turnbull is ready to redrill from 6803 ft. with Barham-Schmitz No. 4 on Sec. 12-7n-32w on wildcat terrain at Los Alamos. The project originally flew the banner of Seaboard Oil and was drilled by that company under the name of Barham No. 4 to 6803 ft. and abandoned in May of 1949. The present operator took the project over for the primary purpose of going deeper for a more comprehensive test.

Monterey Oil Company's L. C. Thomas No. 1, a wildcat test on Sec. 15-9n-33w at Bradley Canyon, is being redrilled at 4905 ft. by Santa Maria Drilling Company. The well the first time down went to 6825 ft. and then plugged back to 4620 ft. for a fresh start.

Standard Oil's Fugler No. 4-10 test on Sec. 10-9n-33w in the Cat Canyon sector is on the pump at 7934 ft., but accurate evaluation of the yield is yet to come. In the Cat Canyon field proper, there are 10 drilling jobs at various operational stages.

Monterey County's Peachtree Valley is the scene of new and interesting exploratory work under the sponsorship of Standard Oil. There the company is in the preliminary stages with its Rist No. 62-9 well on Sec. 29-19s-10e. In the San Ardo field, Monterey County, The Texas Company and General Petroleum Corporation are continuing their respective routine drilling campaigns. Seven wells are digging at the present time.

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Chivo Canyon Well Dry

Two miles northwest of Simi production, Union Oil has abandoned its Simi No. 19 wildcat on Sec. 16-3n-17w in the Chivo Canyon area of Ventura County. The well was carried to 6734 ft.

On Sec. 18-3n-18w in the Happy Camp area, Union's Simi No. 21 has reached a depth not far below grass roots.

Chanslor-Canfield Midway Oil Company appears to have found something deeper with its Hobson No. A-35 test on Sec. 15-3n-24w in the Rincon field. Drilled to a bottom of 12,295 ft. and then plugged back to 12,270 ft. for trials, the lower formation showed oil. Official advices as to the probable worth of the find are expected in the near future.

Near the intersection of Vineyard and Los Angles avenues in the Saticoy district, General Petroleum has pulled out of its Lloyd-Butler No. 1 wildcat on Sec. 12-2n-22w at 9068 ft.

Standard's Sespe Ranch No. 1 wildcat test on Sec. 27-4n-20w continues to probe ahead with the drill at 2975 ft. The company's State No. D-2 on Sec. 35-2n-23w at Montalvo is moving ahead below 8700 ft.

Reports from Hopper Canyon indicated success for E. H. A. Andrews' Andrews United No. 13-8 extension test of the field on Sec. 13-4n-19w. Bottomed at 3249 ft., the well was put on the pump for an initial yield of 190 barrels of 27.5 gravity oil from the intervals of 1340-1750 ft. and 2100-3100 ft. Drilling chores were handle by Acme Drilling Company. Oilfield Equipment & Supply Company has location staked for its Commander No. 11-F on the same section.

New Livermore Test

Contractor Newton Drilling Company is ready to spud The Texas Company's Garaventa-Signal-Hancock No. 1 test on Sec. 22-25s-26e in the vicinity of Alameda County's Livermore townsite. The company's Wagoner No. 1 wildcat on Sec. 19-3s-2e at Bardee is down 8000 ft. or so and is reported to have been troubled by water entering the hole.

Sunray Oil Corporation has clicked with its Cushman No. 1 extension test at Beehive Bond in Glenn County. Taken down to an even 5000 ft., the well was plugged backed to 4559 ft. for tests and produced at the rate of 3,880,000 cubic ft. of gas daily through a 22/64-in. choke. Brown Drilling Company did the work. The drill site is on acreage farmed out to Sunray by Ohio Oil Company.

At Elk Grove in Sacramento County, Norris Oil Company has deserted its Waegell No. 1 wildcat on Sec. 6-7n-7e at Elk Grove because showings were absent to total depth of 3036 ft.

Honolulu Oil's Honolulu-Humble-State No. 1 extension test of the Wild Goose field in Butte County is drilling at 1280 ft. on Sec. 16-17n-1e. Its Honolulu-Humble-Hangtown No. 2 on Sec. 17 is making hole below 2700 ft.

North of the town of Colusa, Humble Oil's Capital Co. No. 1 wildcat on Sec. 3-16n-1w, Colusa County last was reported digging at 8425 ft. Contractor is Loffland Bros.

Dyerville in Humboldt County has recorded a new duster. It was drilled by Elisha Walker, Jr., to 2577 ft. on Sec. 14-1n-2e and was known as Mohawk-Hammond No. 1.

At Petrolia, Richfield is coring and drilling ahead at 1925 ft. at this writing with its Walker No. 1 on Sec. 17-1s-2w. On Sec. 21-1s-2w,

At Tubbs Island in Sonoma County, the even tenor of drilling continues with Tide Water Associated's Noble No. 1 wildcat on Sec. 29-4n-5w. Last word indicated Brown Drilling Company was digging with the well at 4276 ft.

In the Petaluma area, Golden Gate Gas & Oil Development Company's Golden Gate No. 3 explorer on Sec. 3-5n-6w was still undergoing tests above total depth of 947 ft.

Drilling is at 3290 ft. with Union Oil's Union-Brazos-Ward No. 1 at Honker Bay, Solano County. The well is an extension test on Sec. 30-3n-1e.

West Coast Oil Corporation is preparing to resume operations at 500 ft. with its West Coast No. 1 wildcat.

In the Eureka area, B & N Development Company's Duff Unit No. 1 on Sec. 21-4n-1w is down 3110 ft. but fishing.

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Shell Opens New Headquarters At Salt Lake

Salt Lake City has been chosen by Shell Oil Company as the headquarters for a new Salt Lake City division now being established to conduct the exploration and production activities of the firm, according to an announcement by S. F. Bowlby, Los Angeles vice president, in charge of exploration and production in the west.

The management staff for the new division, according to Bowlby, will include G. H. Sturgeon, senior geologist from the Los Angeles office, as division exploration manager and J. E. Mohr, district land agent from Grand Junction, Colo., as division land manger.

The new division will be under the jurisdiction of the Pacific Coast area office in Los Angeles and will supervise the activities of several districts.

The Salt Lake district already established here with W. M. Woodward as district geologist will continue to function under the new division and will be expanded to include the Great Basin area of western Utah and Nev.

Additional appointments by Bowlby to senior staff positions in this area include Arthur L. Brown, formerly with Shell in Ventura, Calif., as division exploitation engineer; and M. H. Harvey, also of Ventura, as division office manager.

The company has leased the fourth floor of the Deseret News building in Salt Lake City as offices for employees now being moved to this division headquarters. Sixty-five people have been assigned to staff the new office, most of whom will be transferred here from other company locations in the west.

The company expects to complete organization of this new division by the first of the year, and at that time, including the staffs of the several district offices under its jurisdiction, there will be some 120 employees in the division with an annual payroll in excess of a half million dollars, Bowlby said.

Bowlby also pointed out, during his visit in Salt Lake City, that the division will encompass approximately 440,000 square miles of the Rocky Mountain region west of the Continental Divide, including parts of Idaho, Wyo., Colo., N. Mex., and all of Ariz., Utah, and Nev. Oil exploration work by Shell is currently in progress in the Washakie, Uinta, and Great basins and in the Four Corners area.

Salt Lake City was selected as the site of the new division headquarters because of its central location from which to conduct Shell's exploration activities, Bowlby said. He added that the excellent school and recreational facilities and the adequate housing space for families of Shell employees were major factors in the decision to establish here.

New Lane-Wells Offices

Lane-Wells has established a Truck Station at Graham, Texas with W. D. Capper as Station Superintendent.

A Lane-Wells District Sales Office has been established at 910 Carondolet Building in downtown New Orleans, Louisiana. W. B. Vice, Jr., is in charge.

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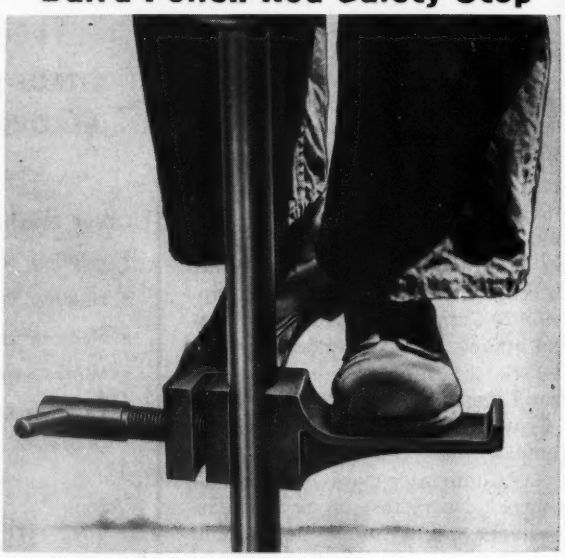

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With Drilling Contractors

L. & F. Drilling Company of Bakersfield—Joe Lewis and Gould Fitch—has purchased another new rig to augment its contract drilling operations. Distinctive features of the new rig are the 127-ft. Bender mast and the G-42 Emsco drawworks. The company currently has rigs active for Union Oil Company at Santa Maria, and for Western Gulf Oil Company in the Fruitvale field.

William Hunt, Thomas W. Clarke and Winnifred Bailey are officials of the new Lee Drilling Company of North Hollywood.

Quite a number of members of the Brown Drilling Company staff celebrated birthdays in August. They included L. G. Wheeler, C. S. Weimer, J. E. Vaughn, C. D. Thompson, C. J. Swartz, A. E. Sturman, C. E. Storie, H. Sanders, Will Reed, T. H. Patton, C. R. Myrick, J. N. Leibee, A. R. Inman, A. D. Inman, E. Dickten, D. W. Clauson and H. L. Camp.

Hayes & Sprague, Inc., has two contract rigs busy on holes both destined to travel to 12,000 ft. They are General Petroleum Corporation's Ballinger Canyon Unit No. 1 on Sec. 31-10n-24w in Cuyama Valley, and Richfield Oil Corporation's Gonyer U.S. No. 78-31 on Sec. 31-32s-23e in the Temblor Range area. Both wells are above critical depths.

Ponds Lodge at Island Park in Idaho was the beautiful setting for a vacation taken by W. W. (Bill) Cline, prexy of the San Joaquin Drilling Company at Los Angeles. That part of the state is described as a fisherman's paradise.

California Commercial Drilling Company has moved in to drill well No. 39 for Formax Oil Company on Sec. 36-32s-23e, back of Taft. To date Formax boasts no less than 35 wells on its property producing from an average depth of 1260 ft. for a total output of 480 barrels of 13 to 14 gravity oil a day.

Santa Maria Drilling Company is the contractor on Douglas Oil Company's Douglas-Fletcher No. 1-28 extension test of the Cat Canyon field. The drill site is 330 ft. north and 1650 ft. west from the north quarter corner of Sec. 22-9n-33w.

Dunlap & Graham Drilling Company has completed Pacific Lighting & Gas Supply Company's Hornby No. 1 well on Sec. 25-2s-11w at East Whittier. Drilled to a bottom of 2089 ft., initial output was 7,100,000 cubic ft. of gas a day through casing only.

When it comes to getting a Web Wilson Connector-Hook out to your rig, there's nobody like "What-a-man" Plaugher for both savvy and strength and speed. ★ And he's your man to tell you and show you why the Web Wilson Hook is designed and built to give you the safety, ease of operation and economy you've always wanted. ★ He also peddles Web Wilson Tongs, Elevators, Links and Power Tubing Spiders—and is not too proud to take an order for a box (or a gross) of "Tiger Tooth" Tong Dies. ★ Better call him at Bakersfield 2-2987, or stop by 1415 - 34th Street and get acquainted—he'd *love* it! Might even bake a cake.

Fullerton Oil Company of Pasadena is drilling an interesting wildcat well on a 1000-acre lease near Lake Charles in Louisiana. Contractor is Meredith & Company, a Pelican State organization.

Drilling & Production Company, leading contract firm, has opened a new office in Bakersfield in the Yager Building at 1831 Truxtun avenue. Telephone number is 8-0955. The company's main offices are in Los Angeles.

Texas operations of the Brown Drilling Company of Long Beach are moving along with speed and success under the guidance of Jim Elliott and Frank Ausanka. Brown Drilling's president, popular Ned Brown, has been keeping the airways busy traveling between California and Wichita Falls, Tex.

E. A. Bender, widely known in contract drilling circles, is a reported holder of leases in the Whitewater Creek Dome area, Delaware County, Okla., where Commercial Oil Company of Turlock, Calif., is wildcat drilling. Sunland Oil Refining Company and Des Moines Oil Company, California organizations, are also credited with leases in the area.

Newton Drilling Company is making rapid time with the drill near 1000 ft. with W. W. Holmes' No. W.P. 53 wildcat venture on land between production at Elk Hills and Buena Vista. Location is on Sec. 22-31s-24e.

Association of Petroleum Writers has welcomed two new Los Angeles members. They are Wayne Goble and Cliff Read, both widely known by the oil writing fraternity.

Modern Cementing

(Continued from Page 9)

Many improvements have been made in the last few years in cementing equipment, materials, and procedures. High-pressure pumps and equipment have been developed which will handle practically any situation that may arise during a cementing job. Bulk-blending equipment has been developed that will accurately blend dry materials in any practical proportions, making it possible to uniformly add small concentrations of retarders, and other chemicals; or large proportions of bentonites, pozzolans, etc. New cementing materials and additives have been developed which will impart a wide variety of properties to cement slurries and the resulting set product. With these new materials and blending equipment, cement slurries can be practically tailor-made to fit any given well condition, regardless of depth, temperature, or other factors.

Undoubtedly there will be new improvements forthcoming from research laboratories in the future which will enable better well completions with more ultimate recovery of oil from well-producing formations.

Presented at Mid-year Meeting, Division of Production, A.P.I., Pittsburgh, Pa.

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$30,000,000 Refining Program Announced By Standard Oil

A $30,000,000 refinery program designed to increase substantially the quality and octane ratings of motor gasolines was announced by T. S. Petersen, president of Standard Oil Company of California.

The upgrading of gasolines to qualities not normally reached by manufacturers of motor fuel will be accomplished principally by construction of two large catalytic reformers. One is to be built at the Company's Richmond Refinery, and the other at its El Segundo plant, Petersen said.

The post-war trend of automobile manufacturers to engines of increasingly greater compression ratios has given modern automobiles improved performance, and has given today's motorist better mileage per gallon of fuel, Petersen stated. But, this swing to higher compression ratios has impelled the oil companies to the manufacture of much more expensive, higher octane gasolines needed to operate these engines satisfactorily.

"We have about reached the ceiling of large-volume output of high octane gasoline which can be attained by modern conventional refining methods," Petersen said. "And we have every reason to believe that fuel requirements of automobiles to be built in the years just ahead will place even greater demands on the oil refiners."

"With this picture in mind, Standard intends to be ready with a modern gasoline designed to meet requirements of new models which will be on the market in the next two or three years."

The average premium motor fuel sold on the Pacific Coast at the present time, Petersen said, is equivalent to the aviation gasoline of only a few years ago. With completion of the two new facilities, he added, Standard will be able to improve markedly the anti-knock characteristics of its premium gasoline to meet the increased needs of the motoring public. He went on to point out that manufacture of gasoline becomes increasingly expensive as octane ratings go up, and the cost ultimately must be reflected in prices to the consumer.

It is expected that construction of the two new units will be started immediately and they will be completed as soon as possible.

Petroleum Equipment Suppliers To Hold Coast Meeting

The Board of Directors, Pacific District of the Association, prompted by popular demand of the membership, has unanimously decided to hold a Pacific District membership meeting(stag) this fall.

The date of the meeting will be October 28, 1953.

The place—the Ambassador Hotel Theater and Embassy Room.

Ott Hammer, Chairman of the Board, has appointed a committee composed of T. Sutter, Chairman, H. E. Howard and H. J. Hagn to assist him with the details.

Tentative plans for the meeting call for an afternoon business session followed by cocktails and dinner. An outstanding representative of the oil industry will also address the gathering.

The committee is planning on a large attendance from each member firm and is working diligently to make the meeting a highly successful one. Executives are urged to also have in attendance their department heads, such as sales, service and credit managers, and others who are interested in association activities. A program of interest to all of these men is being arranged. Further, it is the express wish of the Board of Directors and the Committee that it be made known that representatives from member firms in other districts are not only welcome, but are urged to attend.

Meet a man with 15 mouths to feed

Frank S. Corda farms 240 acres in California's Salinas Valley. We know Mr. Corda well because Standard Oil Company of California fuels the power that tills his land. By replacing muscles with machines, as Mr. Corda has done, the average U. S. farmer produces enough food for 15 people. One hundred years ago a good farmer produced enough to feed only five people. Mechanized farming, powered by oil, has made the difference.

Insect "bomber" demonstrates one way petroleum helps make farms more productive and profitable. Airborne insecticides made by Standard's subsidiary, California Spray-Chemical Corporation, are so effective that they save western farmers millions of dollars a year in crop losses. Other petroleum products save time and labor... for example, a tractor can work 10 acres in the time a team of horses takes to plow two. We also had a hand in that, because Standard developed the first compounded lubricating oil that made high-speed diesels for tractors practical. Fuels and lubricants for farm machines, weed killers, roof coatings, stock dips, detergents, bottled gas for refrigeration, cooking and heating—they're all on the long list of items supplied to western farms by Standard. And you, too, benefit from each new way Standard scientists increase the yield of farms . . . because *you* may be one of the 15 people Mr. Corda feeds. *Questions or comments about our Company are always welcome. Write: Standard Oil Company of California, P. O. Box 3495-C, San Francisco, California.*

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THIS

LAUGH

OFF!!

Jack: "How'd you get the black eye?"

Mack: "Coughing."

Jack: "But, how come you get a black eye for coughing?"

Mack: "I coughed in her clothes closet."

Wife: "The maid quit. She said you spoke to her insultingly over the phone."

Hubby: "Ye gods! I thought I was talking to you."

Three men walked into the railroad station and, after checking schedules, decided they had time for a few drinks. Finally they leaped up and ran, just in time for two of them to catch the train. The third fell down and began to laugh.

"What are you laughing about?" asked a witness.

"Those two guys," said the merrymaker, "came down here to see me off!"

Judge to jury: "Are there any questions before you retire to consider the evidence?"

Juror: "Your honor, a couple of us would like to know if the defendant cooks that malt more than two hours and how he separates the yeast?"

A couple just had a son. They named him Tom. When the birth certificate came back as Thomas they let it go at that, reluctantly.

When another boy came along, however, the father got the registrar of births on the phone. "Look here, you," he said, "last year my wife had a baby and we wanted to name him Tom. You made it Thom-AS.

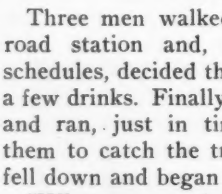
"This one's name is gonna be Jack. Now let's not have any trouble with you!"

A motel manager received this wire: "Have you suitable accommodations where I can put up with my wife?"

Mother (examining toy): "Isn't this rather complicated for a small child?"

Clerk: "It's an educational toy, Madam, designed to adjust a child to live in the world today. Anyway he puts it together, it's wrong."

Most people can drink just as easily sitting down as they can standing up; but few people can stand up as well after they have been drinking sitting down as they can sit down after drinking standing up.



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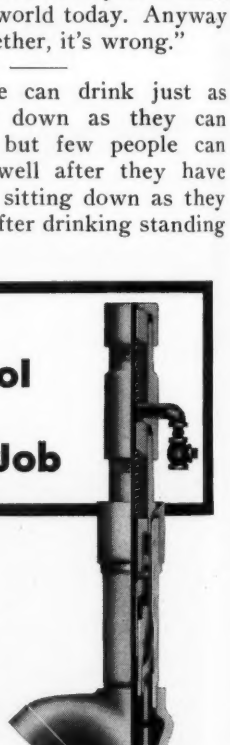

THE BOWEN WIRE LINE PRESSURE CONTROL is standard equipment for all wire line operations, such as coring, surveying, temperature recording, and swabbing that are conducted while rotary drilling and circulating equipment are in place. By enabling the operator to maintain rotation and circulation during such operation, the Bowen Wire Line Pressure Control avoids blowouts and fishing jobs because it prevents gas heads, settled fluid, and stuck drill pipe; it makes the use of wire line tools simple and safe; and it eliminates the necessity of flagging the line—thus permitting faster trips out of the hole.

Use the BOWEN PRESSURE CONTROL whenever you want maximum well control during wire line operation. Available in sizes to fit your drilling string.

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